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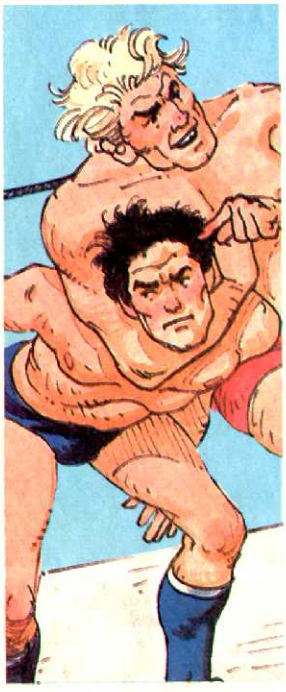

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The Future of Coin-Op Videogames

By ARNIE KATZ

Now that the success of laserdisc games has moved coin-ops off the critical list, we've got the breathing space to ponder what's next for the play-for-pay devices. I mean, it's hard to think about the future when day-to-day survival is the paramount question.

With traffic in the arcades — and, consequently, sales volume — on the rise once more, it's only natural to wonder where the field will go from here. The arcades have apparently attained something close to their full growth potential, and efforts to greatly increase the number of machines might bring back the oversupply situation that had arcade operators tearing out their hair — and cutting down on orders for the new titles.

The most likely forthcoming development is the creation of new types of establishments in which coin-operated electronic games are a major attraction. There's been some attempt to create bar/gamerooms and arcade discos, but the next big effort might be in the form of a private club with a restaurant and perhaps even other recreational activities. This type of fun emporium might have a greater attraction for adults than the current family amusement center, because of a generally lower external noise level and the presence of various amenities that go well with gaming.

Another new wrinkle heading our way is the all-encompassing simulation. The sit-down coin-ops of today are only the forerunners of full-surround games which are perhaps already on the drawing board.

The major barrier holding back the introduction of super-duper arcade machines is the high price of the hardware. The $20,000-$30,000 simulators just aren't cost-effective for amusement centers. The cost of such devices keeps dropping, so it may soon become feasible to employ total simulation units in a commercial setting. Cost-per-play could easily go as high as $2, since such games generally require much more play-time than the run-of-the-mill blastathon.

Laserdisc games have become more numerous in the year since **Dragon's Lair** made its debut, but are unlikely to dominate arcades the way conventional videogames did when they challenged the position of pinballs in the 1970's. Many designers consider raster the more flexible of the two systems, and the visuals of soon-to-be-released raster titles are virtually on a par with those of the laserdisc devices. Ultimately, many machines will blend laserdisc and computer input to take advantage of the strengths of both systems.

The overall popularity of coin-ops has been a little up and down since mid-1982. Improvements in the home games have greatly reduced the technological advantage which was the coin-ops' biggest asset. The recent sales upturn reflects advances in design which have, once more, given coin-ops a chance to offer gaming experiences which are not yet available on microcomputers. In the future, gamers can expect manufacturers to produce fewer, more innovative titles instead of trialballooning a dozen potential entries to see which the operators order.

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And we've got them for all the hit computers …Apple, IBM, Commodore 64, Vic-20, Colecovision,* and TI 99/4A. We've got Pac-Man, Centipede and Defender for Intellivision too.

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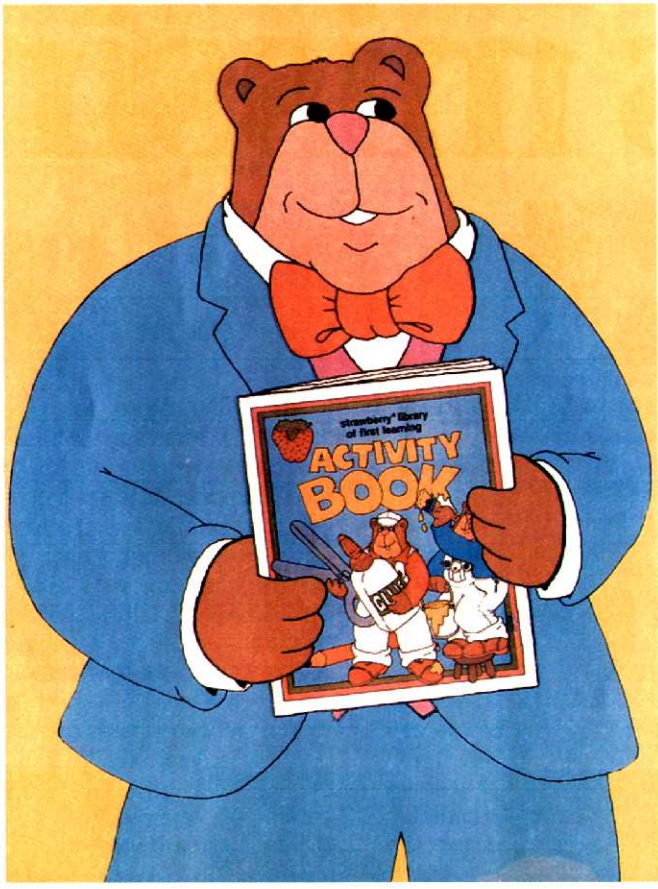
HOTLINE

EXIDY LICENSES FIRST STAR GAMES

Astro Chase, Flip & Flop, Bristles and **Boulder/Dash** will soon be fixtures at family amusement centers from coast to coast as a result of an agreement between First Star Software and coin-op manufacturer, Exidy. "First Star

FIRST STAR COIN-OPS

games are quality leaders in the home market," asserts Richard Spitalny, president and CEO of First Star. "Arcade games have always set a very high standard in the industry, a measuring point for excellence in graphics and gameplay. This licensing recognizes our products as arcade quality."



XEROX HAS BONUS FOR BEAR LOVERS

Weekly Reader Family Software, a division of Xerox Education Publications, has just the thing for Stickybear lovers. Any customer purchasing two Stickybear programs between May 15 and September 15, can receive a free Stickybear Activity Book by submitting receipts and a coupon from their software outlet. The book is an eye-pleaser for kids, featuring cutouts, color-by-number drawings, connect-the-dot games, and puzzles. The offer includes all the Stickybear learning programs, as well as the all-family skill games **Stickybear Bop** and **Stickybear Basketbounce.**

RESTFUL DEVICE FOR APPLE PICKERS

Here's something for Apple-users with arm, wrist and shoulder fatigue. If hours at the keyboard make you feel like you've been plucking apples from treetops instead of just working at your home computer console, "Entry Rest" by Discwasher can be a big help. Made of solid oak, it includes a built-in multi-function calculator with memory, and a static grounding bar to protect the Apple against static discharges. It comes with all the hardware needed to mount it on the computer, for $34.95, and is said to "eliminate the growing problem of computer fatigue", according to Dale Berlau, Discwasher's marketing director.

DATASOFT SEEKS PROGRAMMERS

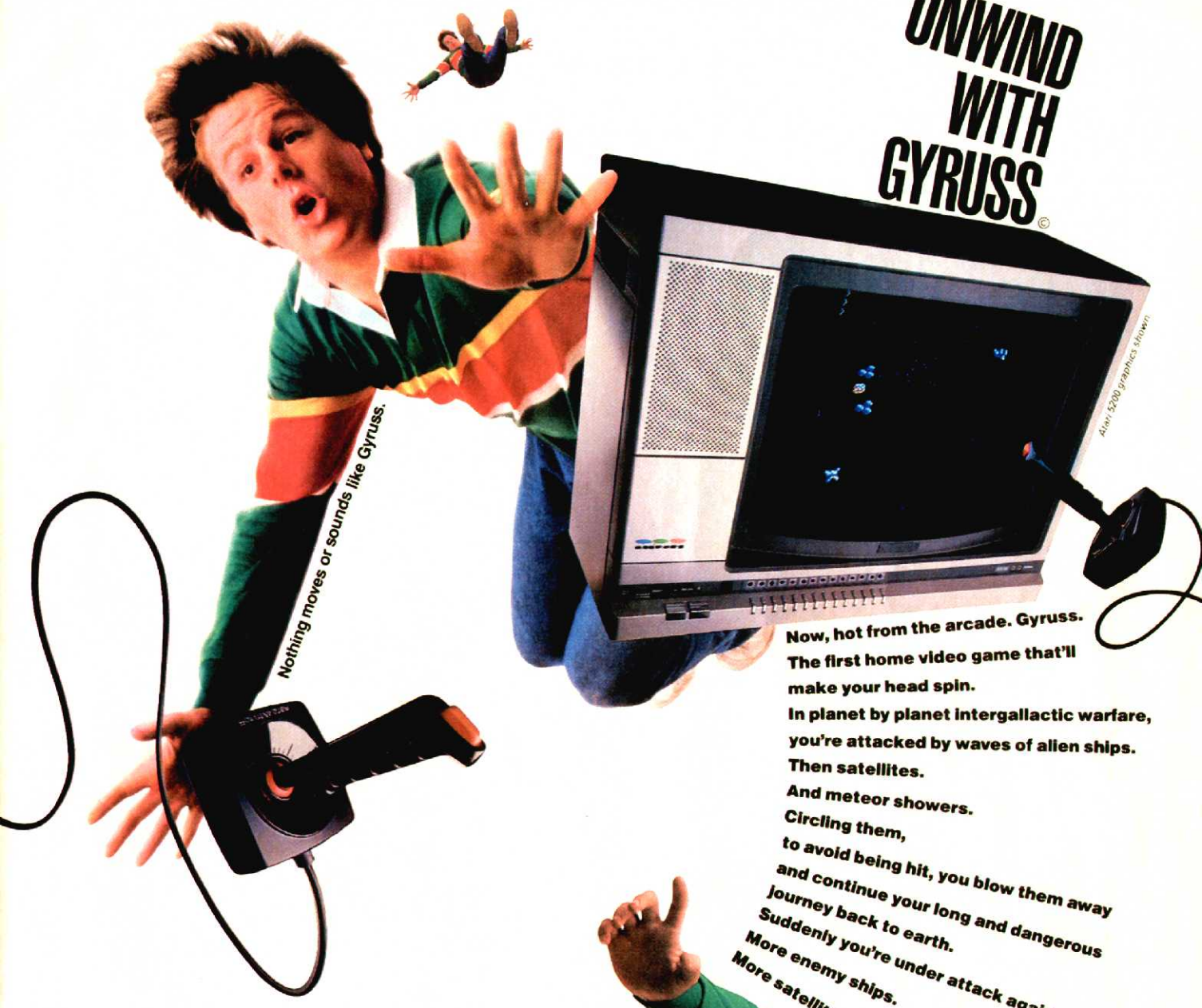
Got a good idea for a game, or a program worth publishing? Datasoft will evaluate the concept, and if acceptable for publication, design a marketing agreement to sell the product through their distribution channels. They'll even transfer the program to other computer systems for wider market appeal. For information, write Datasoft, Programmer's Package, 19808 Nordhoff Pl., Chatsworth, Ca. 91311.

CLINT EASTWOOD FLIES FIREFOX TO ARCADES

Clint Eastwood was on hand to introduce Atari's first laserdisc coin-snatcher, **Firefox.** Based on the Eastwood movie, the game boasts the first original orchestral score ever written for an arcade game by Jeff Gusman, Atari's own full-time, in-house musician/composer. Along with the music recorded by a 30-piece chamber orchestra and enhanced by synthesizer, which observers describe as "rousing" and "militant", arcaders who complete the mission are treated to Eastwood's voice saying, "Nothing can touch us now. Better ice up a cool one; I'm coming home!"

Mike Hally, project leader, and Moe Shore, Atari's video production specialist, (co-designers of **FireFox**), re-edited film footage shots from the movie to produce flight sequences for the game. Players must steal the "Firefox" fighter plane and pilot it out of Russia, using the aircraft-style controller.

UNWIND WITH GYRUSS©



Atari 5200 graphics shown.

Nothing moves or sounds like Gyruss.

Now, hot from the arcade. Gyruss.
The first home video game that'll make your head spin.
In planet by planet intergallactic warfare, you're attacked by waves of alien ships.
Then satellites.
And meteor showers.
Circling them,
to avoid being hit, you blow them away and continue your long and dangerous journey back to earth.
Suddenly you're under attack again.
More enemy ships.
More satellites.
More meteors.
Faster and more dangerous. You're head is spinning as you continue on guts and reflexes.
But do you have what it takes to make it all the way back?
Play Gyruss, the more "hyper" space game.
It flies circles around all the rest.
For the Atari 2600, Atari 5200, ColecoVision, Commodore 64 and Atari Home Computers.

PARKER BROTHERS

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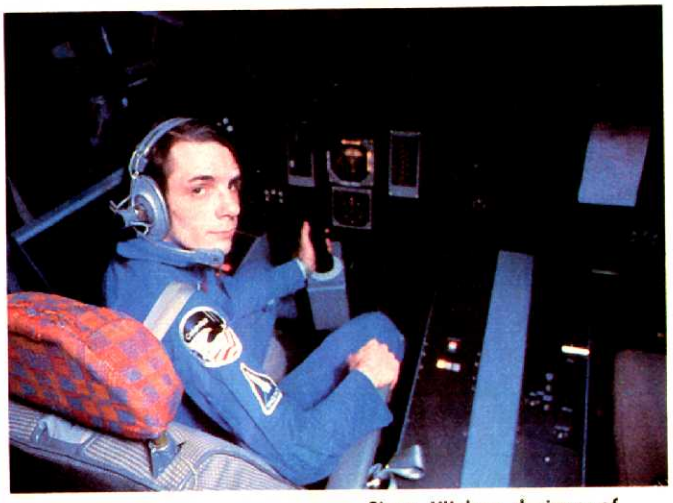
HOTLINE

BALLY PURCHASES SENTE TECHNOLOGIES

Following the Chapter 11 Bankruptcy filing of Pizza Time Theatre, Bally Manufacturing agreed to purchase Sente Technologies, the videogame design unit that Pizza Time formed to create coin-operated game machines. Sente will continue its engineering, research and marketing operations under Nolan Bushnell's leadership according to Robert Mullane, President of Bally. "We are extremely pleased to have this association with one of the most creative men in America. He is already a legend, and we expect his new contributions to Bally's games will be in keeping with his past successes."



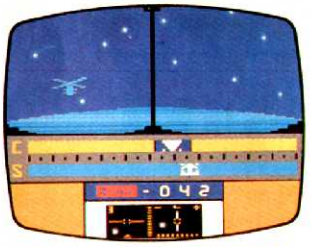
Steve, Kitchen, designer of *Space Shuttle*, at NASA.

SUNCOM UNVEILS GRAPHICS TABLET

The Animation Station, a touch sensitive graphics tablet computer cursor controller from Suncom, brings fingertip control for the IBM PC jr, C-64, Apple, Atari and Adam computers. It features side-mounted dual left or right hand function buttons, with a touch sensor surface built to the same rectangular proportions as a home t.v. set, so that graphics fit to the borders of the t.v. screen. The Animation Station comes packed with a graphics utility program titled "Doodler", and will be supported by a line of software currently under development.

SPACE SHUTTLE TEACHES KIDS ABOUT U.S. SPACE PROGRAM

Over 750 students in seven San Jose, Ca. schools took a two-week science course, combining traditional book-study with hands-on use of computers to teach pupils about the manned space program. The high point of the course let youngsters get the vicarious experience of spaceflight by "flying" a mission, using Activision's **Space Shuttle: A Journey Into Space**, designed by Steve Kitchen for the Atari 2600.



SPACE SHUTTLE (ACTIVISION)

"I feel very strongly that expertise and information from outside the school environment provides valid learning experiences for children," said Aaron Seandel, Associate Superintendent of Instruction for the district. "Schools have very limited resources, and we need people from private industry, NASA, and other outside sources to provide up-to-date information about the real world."

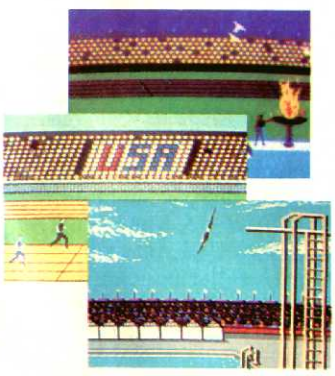
TIMEX STOPS CLOCK ON COMPUTER OPERATIONS

Timex Corp. has decided to exit the computer biz. The company, best known for its line of economy watches, entered the industry late in 1982 with the Timex Sinclair 1000 computer, priced at under $100. The TS-1000 was widely discounted through mass marketers to prices as low as $10, but even at that low cost the black and white computer failed to find the wide public acceptance the manufacturer wanted. New models introduced by the company were poorly received by retailers who had been disappointed in the reception of the TS-1000, so Timex decided to pull the plug on future computer operations.

USERS GROUP OFFERS PUBLIC DOMAIN SOFTWARE

Send a business size, stamped self-addressed envelope to the Jacksonville Atari Computer Enthusiasts, 1187 Dunbar Ct., Orange Park, Fl. 32873. They'll send you a catalog of public domain software for the Atari 400/800. There are over 30 programs listed including games, graphics, educationals, home and business utilities, each selling for $7.95 per disk.

SUMMER GAMES.
WHY WATCH THE OLYMPICS WHEN YOU CAN BE IN THEM?



You're an Olympic athlete competing in eight key events at the Summer Games. How well can you score in track, swimming, diving, shooting, gymnastics and more? So realistic, there's even an opening ceremony and awards presentation after each event.

Unlike other "Olympics-Like" games, Summer Games has incredible realism, superb state-of-the-art graphics and sound effects (including national anthems from 18 countries), and it is a true action-strategy game. In each event you must plan and execute your game strategy in order to maximize your score. It is not just a matter of how fast you can move the joystick.

So change into your running shoes, grab your joystick and **GO FOR THE GOLD!**

One or more players; joystick controlled.

EPYX™ COMPUTER SOFTWARE

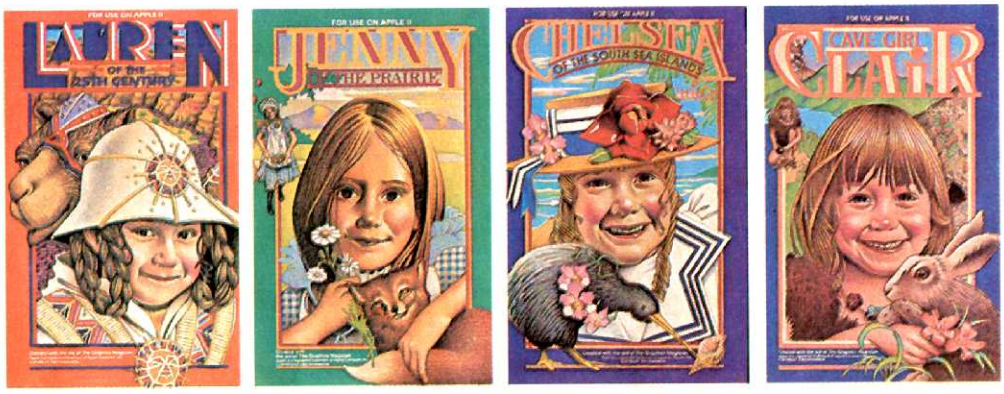
Strategy Games for the Action-Game Player

HOTLINE

COMPUTER GAMES JUST FOR GIRLS

"Behind all our creativity, behind all our research, behind all our field testing is the overriding purpose of Rhiannon — to bridge the gap between girls and computers." This statement explains why Lucy Ewell and Elizabeth Stott formed their company, Rhiannon, to create adventures for girls. The games feature female protagonists based on real kids (the daughters and nieces of the authors), and feature girl-pleasing scenarios that are, as nearly as possible, historically and geographically accurate — the animals and plants in each game are correct for their time and place. **Jenny of the Prairie** lets the player guide a pioneer girl through a hostile plains environment, gathering provisions for the winter and protecting herself from dangers. **Cave Girl Clair** gives 20th century girls a chance to experience the rigors of cave dwellers through interactive computerized fiction. **Lauren of the 25th Century** and **Chelsea of the South Sea Islands** complete the line.

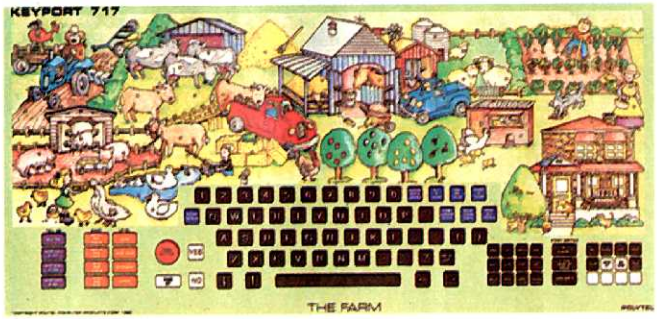
The games' purposes extend beyond entertainment for young ladies. They'll help girls get over their anti-computer biases, and develop good work habits. The documentation with each game must be used throughout play, so kids get used to reading manuals. The system is friendly to experimentation, and there are no on-screen insults if the player makes an error. The games will be published by Addison-Wesley for Apple computers, and then will go multi-system.



Rhiannon hopes to "bridge the gap between girls and computers" with new games.

KEYPORT 717 ADDS UTILITY TO APPLE

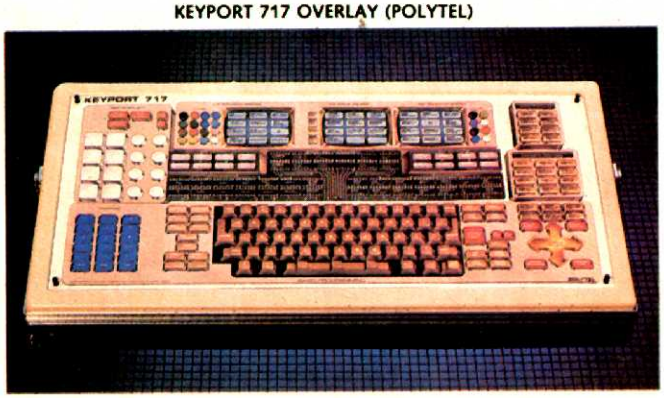
Polytel Computer Products Corp. has a new gadget that makes computers more versatile. The Keyport 717 is a flat membrane keyboard measuring 9 by 22 in., and connecting to the computer through the joyport. It contains 717 user-programmable keys, and each application program utilizes from 250 to 300 of these. The function of each key is indicated on the flexible plastic program overlay, and unused keys don't appear, so its easy to use even for non-programmers. In fact, some application programs are even usable by preschoolers. Complex commands and menus are controlled just by touching one key, to enter data rapidly. It adapts itself for anyone wishing to design a keyboard layout for their own programs, and comes with blank overlays for this purpose.



The Keyport 717 interfaces to most popular computers, such as the Tandy Color Computer, TI 99/4A, IBM-PC, and others. Right now application software is only available for Apple, but will be forthcoming for the IBM-PC soon, and for the Commodore 64 before year end.

The first Keyport game, **The Farm,** is for kids under 10. It teaches them all about life on a farm, with 53 different animals and objects. Young computerists learn to read and type simple words, or even write stories using the pictures and words printed on the overlay. Other entertainments, such as **The Seashore** and **The Jungle,** should be available soon for most home computers.

KEYPORT 717 OVERLAY (POLYTEL)



WOMEN JOIN THE COMPUTER GENERATION

Computing isn't just a man's sport any longer (if it ever was!). According to figures just released by TALMIS (a market research firm) one out of every four home computers sold this year will be purchased by women.

TALMIS surveys show that the fastest growing group of computer buyers is families with kids under 18. It's thought-provoking to note that women say they're more interested in the machines as entertainment devices, while man say they're buying them to help the kids improve their academic skills. Well, that's no surprise. Everyone knows, "girls just want to have fun!"

HES TAGS SPOKES-VULCAN

HES (Human Engineered Software) has chosen an out-of-this-world spokes-being to present its products to the buying public. Taking up position as celebrity voice for the line is Leonard Nimoy, the much-traveled actor best known as the Vulcan Mr. Spock from the "Star Trek" television series.

TAITO AMERICAN GOES WESTERN

"Gitalong Zeke", sporting 10-gallon hat, six-shooter and badge, is the sharp-shooting sheriff trying to keep the peace in **The Tin Star**, the latest coin-snatcher from Taito. Zeke rides into town, then faces various varmints and bandits in a high noon ambush. Bad guys fire from roof tops, windows, doors and the street, and roll barrels at Gitalong to divert his attention or knock him down if he doesn't dodge. The next screen is a saloon shoot-out, then a corral brawl with double points for Zeke if he can climb ladders and jump on the bandits. The bonus round is a desert facedown between the lawman and the last outlaw.

The second coin-op is **Zeke's Peak**. Players manipulate a ball using a horizontal bar to zig-zag across the screen, avoiding trap holes, and going through tunnels to help Zeke reach the top. Cartoons of mountain climbers and cheering crowds, accompanied by cheerful mountain music, surround the action, and each climb to the top is difference since new paths are plotted with every game.

SYNETIX SPRUCES SPRITES WITH NEW SUPERSPRITE GAMES

Synetix' SuperSprite has been making news since its introduction. The Apple peripheral board provides animated sprite characters (large programmable objects capable of independent movement) and background graphics, sound effects and synthesized speech to enhance the capabilities of the computer.

Eight new programs use the board to produce dramatic and colorful graphics previously impossible on the Apple. Entertainment titles include **Kobor,** a maze-pursuit adventure, **BaseballSprites** and **Assembly Line Madness** (match auto parts to cars on a fast-moving assembly line.) There are also four educational games, **NumberSprites, AlphaSprites, SpriteArt** and **SpriteMusic.**

EG Readers Pick Their Favorite Games

Most Popular Videogame Cartridges

Position This Month	Position Last Month	Times on List	Game Title	System	Manufacturer
1	New	New	Joust	Atari 5200	Atari
2	6	3	Q*Bert	ColecoVision	Parker Brothers
3	New	New	Space Shuttle	Atari 2600	Activision
4	5	3	Time Pilot	ColecoVision	Coleco
5	13	2	Mr. Do	ColecoVision	Coleco
6	New	New	Baseball	Atari 5200	Atari
7	New	New	Miner 2049er	Atari 5200	Atari
8	4	17	Pitfall!	Atari 2600	Activision
9	New	New	Star Raiders	Atari 5200	Atari
10	15	4	Miner 2049er	ColecoVision	Micro Lab
11	7	3	Pole Position	Atari 5200	Atari
12	New	New	Dig Dug	Atari 5200	Atari
13	9	13	River Raid	Atari 2600	Activision
14	—	15	Zaxxon	ColecoVision	Coleco
15	New	New	Robot Tank	Atari 2600	Activision

Most Popular Computer Games

Position This Month	Position Last Month	Times on List	Game	System	Manufacturer
1	1	11	Miner 2049er	Most Systems	Big Five/MicroLab, Reston
2	New	New	Zork	Most Systems	Infocom
3	New	New	Buck Rogers	Most Systems	Coleco, Sega
4	2	14	Choplifter!	Atari/Apple VIC-20	Broderbund Creative Software
5	—	8	Astro Chase	Atari/C-64	First Star/Parker Bros.
6	9	2	Lode Runner	Most Systems	Broderbund
7	New	New	Murder on Zinderneuf	Most Systems	Electronic Arts
8	5	24	Star Raiders	Atari	Atari
9	New	New	Pole Position	Most Systems	Atari
10	New	New	Blue Max	Atari/C-64	Synapse

Most Popular Coin-Op Videogames

Position This Month	Position Last Month	Times On List	Game	Manufacturer
1	1	4	Dragon's Lair	Cinematronics
2	2	5	Star Wars	Atari
3	3	8	Pole Position	Atari
4	New	New	Track and Field	Konami
5	New	New	M.A.C.H. 3	Mylstar
6	—	5	Xevious	Atari
7	New	New	Crystal Castle	Atari
8	New	New	Pole Position II	Atari
9	5	16	Dig Dug	Atari
10	—	14	Tron	Bally Midway

HOTLINE

SPINNAKER INKS DEAL WITH FISHER PRICE

Spinnaker Software just entered into an agreement with Fisher Price to develop a line of titles for market under the FP banner. Fisher Price games, which will be available on cartridge for such popular home systems as the C-64, Atari and ColecoVision, will be developed in two age categories, for youngsters 3 to 8 and for older kids 8 to 12. They'll focus on math, language skills, creativity, learning skills and computer literacy. Fisher Price, long the world's leaders in non-electronic educational games and toys, expects to have its first dozen electro-games in the stores by mid-summer 1984. "By 1990, over 45% of all U.S. households will have at least one home computer."

Tricia Parks, Vice President
Future Computing, Inc.

HATS OFF TO WINNERS OF THE G.I. JOE™ BLACK COBRA CONTEST

Parker Brothers recently announced the winners of its **G.I. Joe™ Black Cobra** Contest. Eleven players submitted snapshots of the G.I. Joe™ video game's 16th level, home of the dreaded Black Cobra, and were awarded Black Cobra Caps. Winners, listed in alphabetical order, are: Grant Anderson, Heyworth, IL; John Cominsky, Mechanicsburg, PA; Anthony Curro, New York, NY; Perry Dilbeck, McDonough, GA; Leo Evans, New York, NY; Howie Glassman, Bayside, NY; Timothy Houde, Southbridge, MA; Keven Kreitzer, Salem, OR; Stacey Teller, Staten Island, NY; David Vankirk, Portsmouth, OH: Mitchell Whitington, Garland, TX.

Konami toasts opening of new R&D building (right) in Osaka, Japan.

KONAMI FETES NEW R&D BUILDING

Mr. Matsuda, one of Konami's founders, Mr. Ishihara, creator of **Track & Field,** and Mr. Kozuki, President of Konami, are shown as they preside in a traditional Japanese ceremony, battering open a drum of saki to serve to guests as they toast the success of Konami's new Research and Development building in Osaka. The five-story, 28,000 sq. ft. structure houses 150 engineers.

SWEET GIFTS ARE MADE OF THESE

Know someone who lives, sleeps and eats computers? This can be literally true with a solid chocolate replica of a micro from Long Grove Confectionery Co., Long Grove IL. The 3 in. x 5 in. x 4 in. treat is $9.95 and comes in a gift box decorated with a computer printout motif.

CONSUMER BEAT

Timeworks has a good deal for Commodore owners. Send in your existing Timeworks cassette plus a $4.70 handling fee, and the company will exchange the cassette for a disk format of the same program.

Spilled something on your favorite game disk? Maybe it can be saved. A User Care Emergency Disk Saver Kit lets you remove the contaminated disk from its jacket, clean it, and insert it into a new disk jacket. The $23 kit comes with cleaning pads, jacket, disc and drive cleaner, swabs, wipe cloths and complete instructions. The company also markets a Cartridge Care System ($8.95) to keep those valuable carts running right.

CompuServe has a new service just for Coleco Adam computer owners. Adam-OnLine will provide users with information on new Adam hardware and software developments, and other information of special interest to Adamites. It eventually will become the basis for a user's group for owners to exchange programming ideas.

Need a cheat sheet to write commands and information needed for C-64 and IBM PC programs? Blanks are available, 12 to a pack, from Bytes & Pieces, for $15.95, at most computer stores.

After last year's experiment in price-shaving, Penguin Software has raised the tag on all single-disk games to $29.95, and two-sided programs to $34.95. Company spokesmen attributed the increase to the high cost of development, promotion and advertising.

General Electric also announced price increases, approximately 6% on all rechargeable batteries. However, the company is reducing the price for battery chargers by 9% to 13%. GE's marketing manager, Ronald Bridgers, says this goes along with the company's razor blade strategy, saying "Our marketing research indicates that these..chargers will each pull up to ten additional battery sales."

Over 100 independent software and hardware companies are preparing libraries of software and peripherals for the Apple Macintosh computer. Among the companies announcing products to be available this year are Blue Chip Software **(Millionaire, Tycoon, Baron** and **Squire),** Infocom (the entire line of text adventures), Scarborough Systems **(Run For The Money),** Simon & Schuster **(Typing Tutor)** and Sir-Tech **(Wizardry).**

Softdisk, the monthy publication-on-disk for Apple pickers, has expanded its circulation to retail outlets. Each monthly offering features programming techniques, hints, tips, a variety of useful programs, games, novelties, plus a great deal of interaction between subscribers in an almost club-like

atmosphere.

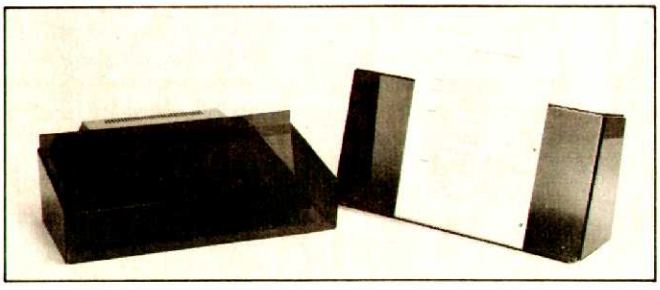
"Chips & Changes", the high-tech traveling show that will be touring American science museums for the next two years, has attracted support from Scholastic. The software company will provide exhibits on microcomputer education, featuring hands-on demos of **Spelldiver** and **Agent USA,** games designed by Tom Snyder.

Verbatim Corp. has published a disk with the three winners of the first "Computer Edgame Challenge". The games test match, spelling and vocabulary skills of elementary students. The trio of programs is available for Apple II computer owners, for $3.50 from The Verbatim Computer Edgame Challenge, 4966 El Camino Real, Suite 228, Los Altos, Ca. 94022.

Mylstar Electronics liked the way Parker Brothers handled the home marketing of **Q*bert,** so signed a pact to give Parker the right of first refusal for home versions of all Mylstar games for the next three years. The two companies expect the relationship to make it easier to work together in developing new games, as well as coordinating marketing efforts.

HARDWARE BEAT

Standguard is a combined computer keyboard cover/bookstand made of smoke colored K-resin plastic. Used as a protector, it shields the keyboard from dust, liquids and other accidents, then acts as a bookstand to hold manuals and instructions at eye level while the computer is in use. It measures 16" high and 9" wide, with the back open to leave breathing space over the air vents. It works with most home computers, such as the Atari, Apple, C-64, and VIC-20, and is available for $16.95 (plus handling) from DMI Products, 740 Colfax Ave., Kenilworth, NJ 07033, phone 201-241-1471.

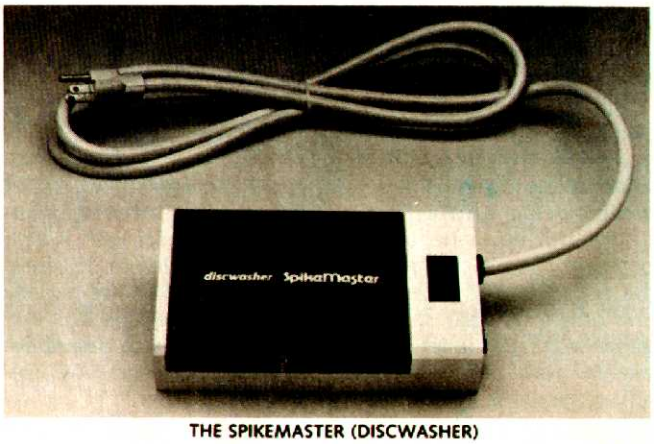


Some older models of the Commodore 64 have interference problems due to RF emissions from the computer unit. An Interference Filter Kit for $15.95 from Bytes & Pieces may be all that's needed. The kit requires opening the computer and making three simple solder connections, which the manufacturer promises is so easy a novice can do it.

The new Data Spec keyboard is the only detached keyboard we've seen for the Apple II/II+. Just plug it in and the 10 ft. cable lets computerists sit wherever they wish, instead of being glued to the front of the monitor. For ease of use, the keyboard has 97 function keys, including a full ASCII character set with upper and lower case letters, plus mathematical function keys, a 10-key numeric pad, and key words used in basic programming.

Commodore's new Model 16 computer is aimed at beginning computerists. It holds 16,000 bits of information, and will sell for about $100.

The TGM-300 from TG Products is a 300 baud, full duplex, serial asynchronous modem for under $100. It works with Atari XL computers, Commodore 64 and VIC-20, and plugs directly into the computer without cables. It makes automatic dialing available so it's easier for home users to connect to information services like The Source or CompuServe.



THE SPIKEMASTER (DISCWASHER)

Surges can get your computer down quicker than anything except spilled Pepsi. There may not be much you can do about the latter, except for barring beverages from the computer room, but Spikemaster from Discwasher is just the cure for power surges that can actually wipe out programs or even damage the computer itself. Just plug it in, and a five-part filter with five surge suppression devices, RFI filtering, and circuit breaker will protect your expensive equipment. It features four sockets, heavy-duty cord, and an indicator light to let you know it's on the job.

Concorde Peripheral Systems has high-quality disk drive systems for virtually every major personal computer, including Atari, Commodore, IBM, Radio Shack, and Apple. All products carry a 12-month over-the-counter-exchange guarantee, and are subjected to exhaustive tests before they leave the factory. Built-in glass bonded heads, brushless D.C. motor and an opto-isolator LED combination provide instant correction for drive speed variations and maximize track zero establishments. The company estimates a 10,000-hour mean time failure rate.

APPLE KEYBOARD (DATA SPEC)

CONCORDE'S DISK DRIVE SYSTEM

SOFTWARE BEAT

Infocom's **Seastalker,** available for most computer systems, is an interactive text adventure with beginners in mind. It's tailored for any player nine or over, who becomes the main character throughout the story, which Infocom describes as "an adventure in the tradition of Jules Verne's '20,000 Leagues Under The Sea'."

Viking Raider, from Interphase, uses an unusual cartridge diskette combination for the Commodore 64, which the manufacturer hopes will ease the piracy problem. Some commands are encoded on the cassette and others on disk, and the game won't run unless both are in place. The action adventure game features 128 outdoor screens, plus another 30-plus indoor scenes. Leif, the heroic Viking, seeks treasure, food and other goodies as he struggles to overcome Frost Giants, dragons, trolls and other obstacles that bar his path to the imprisoned Queen and the throne.

Zenji, Activision's latest game by Matthew Hubbard for the Atari computers and 5200, was inspired by Far Eastern philosophy. "Zenji" is a form of meditation that helps students reach enlightenment. The game features a maze of elements that must be united, using the joystick to direct a rolling head and connect the different parts.

Malicious machines are on the march, in two robotic releases from Atari. **Robotron: 2084** pits players against rampant robots, with special dual controllers. The player puts both joysticks into a plastic holder that comes with the game. It keeps the sticks firm, so the left can maneuver the on-screen hero while the right operates his laser gun. **Berzerk** lets the player face robot guards as he moves through a maze, as a built-in voice gives auditory clues ("Intruder alert!") and challenges ("Chicken! Fight like a robot!") Both are available for the Atari 5200, and *Robotron: 2084* is also on-line for the Atari home computers and Commodore 64.

Imagic and Amiga have made a deal to allow 2600-compatible carts like **Demon Attack, Cosmic Ark** and **Dragonfire** to be included in one of Amiga's multi-program **Powerplay Arcade** games. The new format utilizes a proprietory switching chip to allow production of a cart, with up to 32K of memory which can be divided in 4K-segments.

Activision expects to be producing more than a computer game per month by this winter. The software company has a pact with Action Graphics to deliver 15 titles. Action Graphics has already completed the Activision cartridge versions of **Beamrider** and **Pitfall!** for play on ColecoVision.

Mirror Images gives computerists a fish-eyed view of the IBM-PC. **Freddy Fish** casts the gamer in the title role, on an aquatic quest to free captured friends. Freddy's natural enemies are larger fish and frogmen, as he maneuvers through a maze of nets and fish hooks through various play screens.

Bounty Hunter is a full-length text adventure set in the Old West for the Adam computer, from Victory Software. It's available on cassette tape for the Adam's digital data drive.

Control a flying cab in a 23rd century city in **Space Taxi,** the new arcade-style game from Muse for play on the C-64. Electro-gamers try to earn as many fares and tips as possible, while avoiding moving obstacles through 24 screens. Collect enough, and an additional bonus screen combines arcade action with fantasy features..but so far no one, not even the game's author, has made it through all 25 screens.

Hes Games 84, for play on the C-64 from HesWare, uses life-like animated characters in a simulation based on the 1984 Summer Olympic Games. Weightlifting, diving, running, long jump, archery and hurdles events are featured against a backdrop of cheering spectators. For an additional note of sports-realism, the program features instant replay capabilities, and allows users to save their best performances at any event. Where appropriate, the program displays world records.

WHAT'S HOT

The latest wrinkle in software is a whole new category of diversions — non-gaming pastime programs, like **Puzzle Mania** from Reader's Digest that lets Apple users assemble seven different jigsaws at six different skill levels. . . **Paint Magic** from Datamost for the C-64 helps would-be artists draw pictures on screen, then provides a palette of 16 colors to paint the finished scene. . . The Commodore 64 can tell a story to a preschooler, in **Little Red Riding Hood** from Playground Software. It's got colorfully-animated graphics that allow young electro-gamers to interact with the story. . .Synapse's **Relax!** was designed to make tense computerists cool off as they monitor their own nervousness in a program designed to calm the uptight . . .**Aerobics** by Spinnaker (C-64 and Atari computers) is a complete physical fitness program. Follow the energetic on-screen instructor through exercise sequences custom designed for each user's specific needs, whether it's a basic routine for overall fitness or specific exercises to concentrate on problem areas. . . After all that exercise, surely you deserve a treat! **Jewish Compu-Chef,** by Davka Corp., lets cooks choose traditional ethnic and American recipes by name, ingredients or classification, then automatically adjusts the recipe to the number of servings desired, and even prints out a shopping list to buy the required ingredients. It's a good way to recapture some of those calories you worked off!

That's just a hint of some of the great amusements coming on-line. In fact, entertainment software is so hot that **EG** is introducing a new column this month in the computer section to look at these recreational products.

EDU-WARE

Scholastic Wizware has the ticket to let you ride the rails with **Agent USA** as you try to catch up with the FuzzBomb that's taking over America. The program teaches map reading, geography and time management, but the game is so engrossing, the student will never notice. . . If you'd rather run the railway empire than be a passenger, **Trains** by Spinnaker will put you in the engineer's seat. Pick up logs at the lumber camp to deliver to the sawmill and ore for the factory, as you learn the basic principles of running a business, like managing financial resources, setting priorities and meeting deadlines. . . **M-ss-ng L-nks** from Sunburst uses passages from well-known kid's lit to form cryptic puzzles. It omits letters, then challenges the player to read the text, in nine difficulty levels that range from omitting just the vowels, to omitting the words altogether! It improves reading, writing, spelling, grammar and punctuation skills. . .

The Game Show, from Advanced Ideas, uses a quiz-show format to teach vocabulary and information, presenting clues to help players win the rounds. . .Electronic Arts' **Word Flyer** asks computerists to pick up a word and match it with the one zooming by in the sky. Starts out easy enough for pre-readers, but gets faster.

Electronic Games
460 West 34th Street
New York, N.Y. 10001

Readers Replay

FOR THE RECORD

On page 57 of your May issue, you had the picture of Atari 2600's **Defender** upside down. Also, on page 60, your picture of **Caverns of Mars** is labelled **Starmaster.** You know, the last thing I want to see is that a great magazine like *Electronic Games* overlooked a mistake (or two).

An "it's-my-first-subscription-and-I-love-it" fan.

Justin Hokamura
Maui, Hawaii

Ed: Thanks for helping us set the record straight, Justin. And while we're at it, in the same issue, **The Pit** *was inadvertently labelled* **Mr. TNT.** *And, in Stand-Alone-Scene, we showed a photo of the hand-held* **Popeye** *when we meant to show the table-topper. Sincere apologies to all concerned.*

ADAM BOMB?

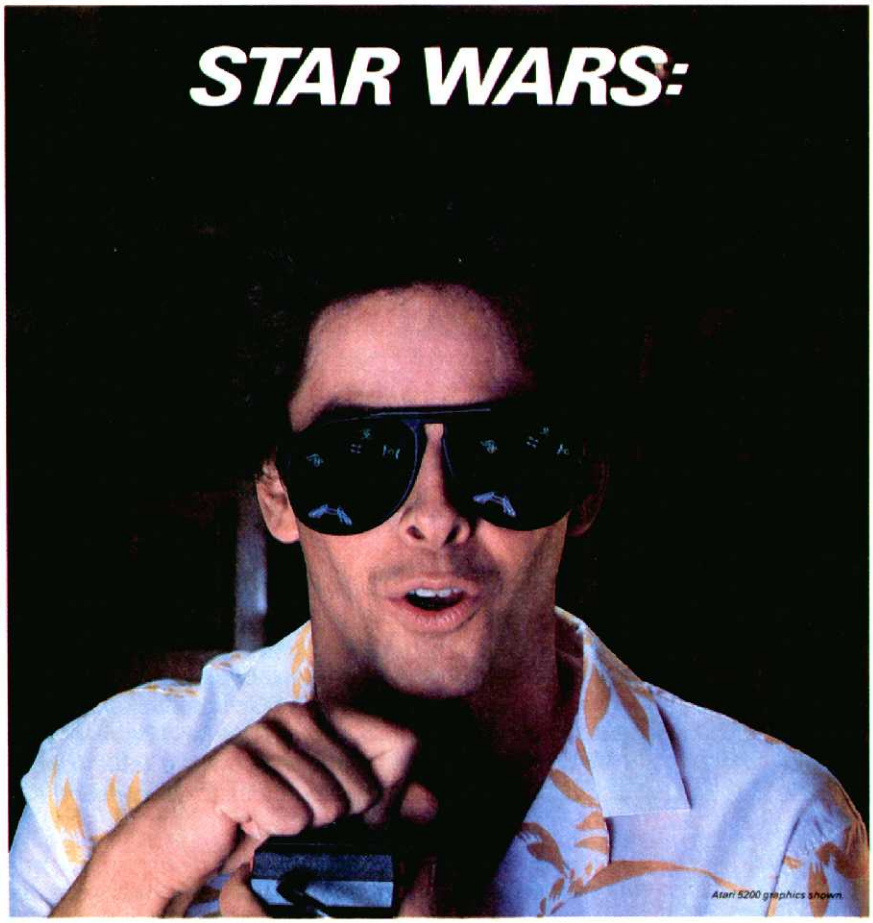
In my opinion, EG has been too favorable to Coleco's Adam. I bought the Adam add-on module in December. Within hours the printer broke down. Needless to say, I was very disappointed, having eagerly awaited this "revolutionary" computer which would "change family computing."

Don't get me wrong. There are many things about the computer that I like. But when you cover this machine, you exclude one important aspect — its marketing. By rushing it into release during the holiday season, Coleco has turned the Adam from a probable hit to a possible failure.

I know of four people who bought the Adam. All of them had to return it within a month. Each Adam had a different problem, demonstrating that it's laden with defects in every component. Another problem is the repair policy. If the computer is defective, you must send the *entire* machine to the UPS or to a repair center. If you own a defective Colecovision Adam module, you have to send the Colecovision also!

I showed Coleco how angry I was. I returned my Adam and bought another microcomputer, which I am fully satisfied with.

Ben Stein
Bronx, NY



right when the stick was centered. (Three down.) That one was replaced. Now, both are not working properly again. That's five sticks that bit the dust in less than five months. I'm not hard on joysticks.

Thanks but no thanks, I'll stick with a stick that'll last.

Jay Hatcher
Farmington Hills, MI

COPY RIGHTS?

After reading the reply to Kenneth Jeras' letter in your March issue, I felt a responsibility to answer it. First let me say that I am an avid reader of your magazine. I respect it and depend on it for information about my hobby.

I am a recent purchaser of the Atari 600XL computer. Included in the box was a paper filled with information on warranties, etc. On the paper there's an section called "Disclaimer of warranties on computer programs." The following is an excerpt: "Atari home programs are distributed on an as is basis without a warranty of *any kind.* Should the program prove defective the consumer assumes full cost of all servicing."

As long as companies continue with

WICO FANS

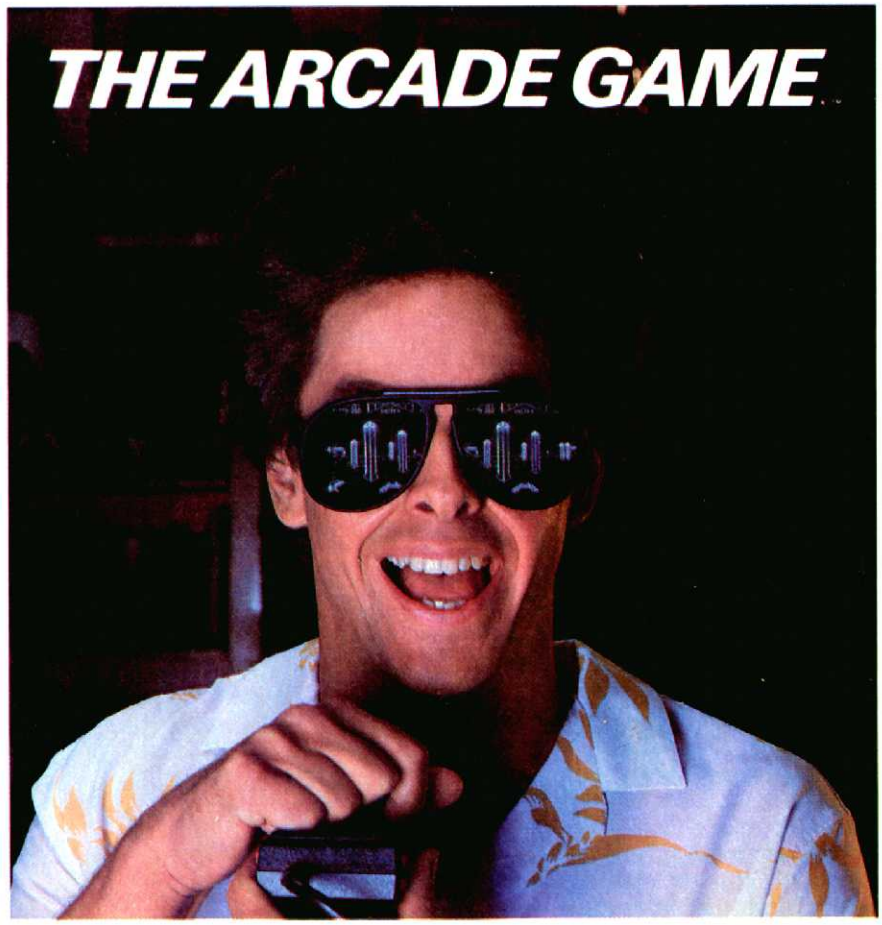
Please spread the word about the Wico joystick for the Atari 5200. With the 5200 joystick I got to screen 5 on **Miner 2049er** after two months. Three days after I got the Wico stick, I got to screen 10.

The Wico joystick overcomes *the* major problem with the Atari 5200 — non-centering. It makes **Pac-Man** playable again.

Fred Solmer
South Bend, IN

— AND FOES

In January I bought two Wico controllers for my Atari 5200. One with the keyboard and one without it. Both came out of the box defective. (Off to a fabulous start.) Both were replaced. Later, with one stick, even with the left/right trim control all the way left, the on-screen character still moved



this kind of policy, I feel the consumer should have the right to make copies for private use.

Anthony Milazzo
Staten Island, NY

Ed: The best way to make your displeasure known is to write to the customer relations office of any software manufacturer that doesn't warranty its products. While your annoyance is certainly justified, EG still can't endorse copying programs illegally. If a software manufacturer won't warranty its goods, enough angry letters from buyers — and potential buyers — should help it see the error of its ways.

BLUTH FANS UNITE!

Ed: In response to overwhelming requests from fans all over the country, the address of Don Bluth's fan club is: Don Bluth Animation Club, P.O. Box 398, Tarzana, CA 91356. Membership is $10 for U.S. citizens, $12 for overseas fans.

A TEXAS TEMPEST

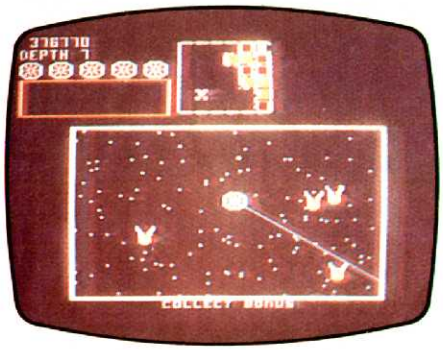
The May EG carried "Tops & Flops" a humorous piece of recounting some of the highs and lows of the 1983 gaming year. Though it was intended strictly in fun, our veiled reference to the president of a Texas-based software company who bought a helicopter instead of hiring some graphics experts has had an unexpected — and somewhat ironic — fallout.

It seems that presidents of Texas-based software companies are getting dozens of calls from alert readers looking for a chance to pick up a slightly used helicopter at a bargain price. Be advised, the company to which the item alluded has long since filed chapter 11. Its president—with or without the chopper is not known—is no longer active within the industry. Do not confuse that company with any of the excellent software houses which are still in operation and do not have helicopters for sale.

GLITCH OF THE MONTH

The enclosed photograph shows one of two glitches I encountered with Atari's **Space Dungeon.** This was the starting room on level 7. It originally had one door. After leaving the room, I immediately got killed and returned to this room while the door was still flashing. This turned it into a solid wall. Of course, the game is over at this point, unless you want to stay in this room forever!

The second glitch I saw was that the



SPACE DUNGEON (ATARI)

room containing the "collect bonus" box had no doors at all. This prevented the player from going on to deeper levels.

Jim Buszkiewicz
New Carlisle, IN

Ed: Congratulations on winning your Paxxon Pac-Man wall clock, Jim — and a special thanks for the photo of your glitch, the first one we ever received.

STAR WARS SPEAKS!

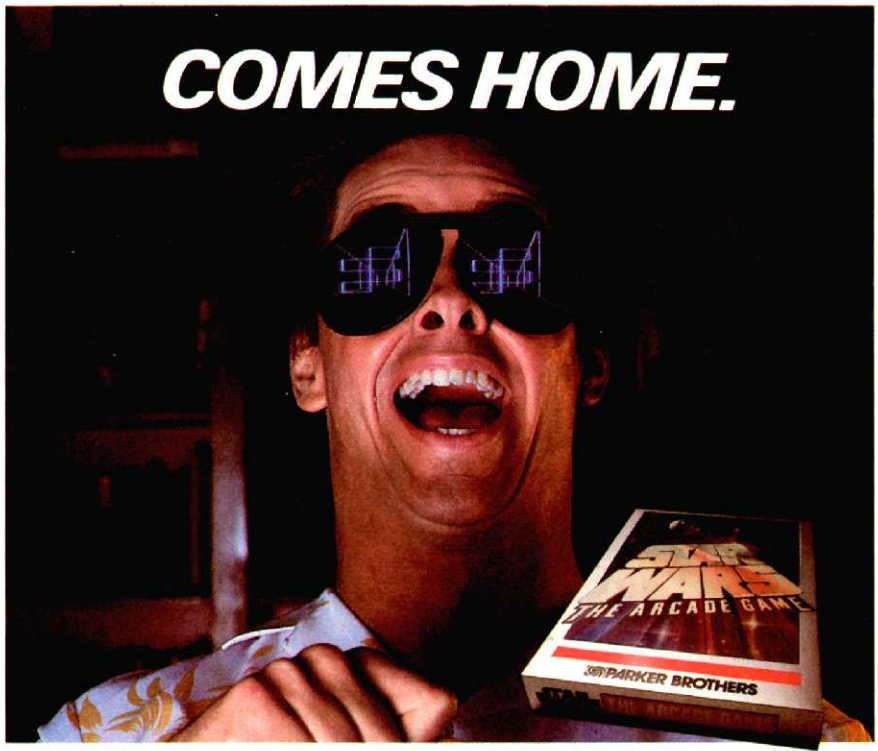
I found a hidden message in Atari's coin-op *Star Wars*. After you have shot the exhaust port in the Death Star and just before it blows up, it reads "May the Force be with you." There are other messages on the Death Star on different waves, but they're not as clear.

Steve Distler
Hugo, MN

CALLING ALL CLUBS

Got a computer or videogame club you'd like us to know about? Drop a line to Electronic Games Magazine. Whether the club is for a particular game, game system, computer, etc, we'd really like to hear about it.

Every dog must have his play: Joe Cocker, owned by Bonnie Mayerson.



STAR WARS,™ the arcade game that blew its way to the top of the charts, is coming home. TIE FIGHTERS*,™ fireballs, catwalks, they're all there in 3 of the hottest action screens in any galaxy. There is only one STAR WARS: THE ARCADE GAME*.™ For the Atari 2600, 5200, Atari Home Computers, ColecoVision and the Commodore 64.* PARKER BROTHERS

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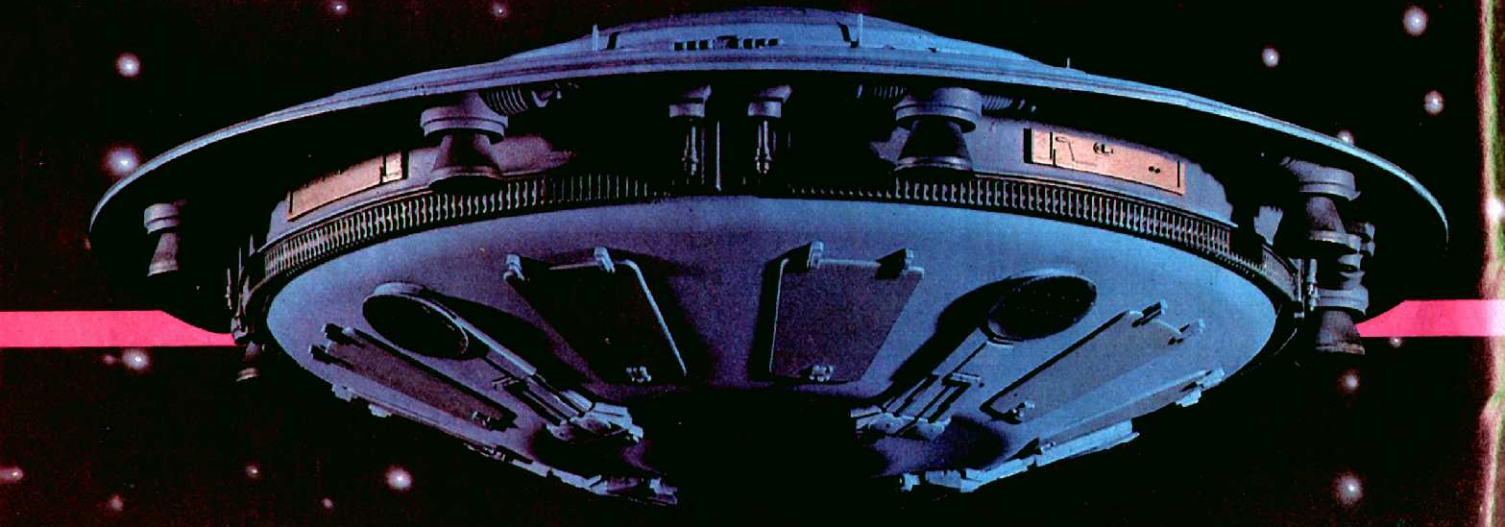
THE FORCE IS WITH US

PREPARE TO CHALLENGE THE SUPER GAMES OF THE LUCASFILM ATARI ALLIANCE



Lucasfilm Premieres First Two Games
Can it become a Force in electronic gaming?

By ARNIE KATZ

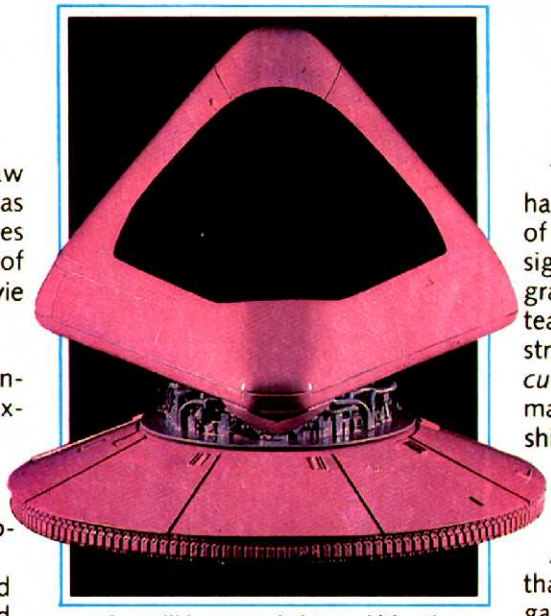
Remember the first time you saw "Star Wars"? The George Lucas science fantasy epic filled audiences with awe, amazement and a sense of wonder with its mixture of "B" movie thrills and "A" movie production values and artistic sensibilities.

When Atari and Lucasfilm announced their joint venture approximately 18 months ago, the project raised a storm of interest—and perhaps a few sceptical eyebrows as well. Would Atari be able to capture Lucasfilm lightning in a cartridge? How much could and would Lucasfilm contribute to the finished software? Can filmmakers really make games?

The first two titles designed by Lucasfilm and distributed under the Lucasfilm-Atari banner provide emphatic answers to these questions which silence all doubters. **Rescue on Fractalus** and **Ballblazer** bear the unmistakable Lucas imprint, and what's more important, both programs are superior games. Under the leadership of director, Stephen D. Arnold, and Peter S. Langston, director of game development, Lucasfilm's Computer Division has vaulted directly into the front ranks of the software design houses. The approach epitomized cartridges that materially advance the state-of-the-art.

Rescue on Fractalus is probably the more expectable of the two releases, since it is precisely the kind of science fiction romp that earned the company its reputation. It's a first-person flying simulation in which the player dares a mission behind enemy lines to rescue downed pilots. The gamer blasts toward the enemy planet from a mothership and skims low over the surface of the world looking for the stranded spacemen while avoiding murderous ground- and air-based fire.

The greatness of *Rescue on Fractalus* lies in the wealth of detail which the design team, under project director David Fox, included to enhance the simulation. "I want to make games that transpose someone to a different reality," says Fox, whose ultimate ambition is to create a Dream Park filled with full-dimension simulations. "That's why the rescue ship launches from a mothership. We didn't want to just start the game right on the surface of the planet."



The Ballblazer rotofoil in real life. The gamer "sits inside" during the first-person perspective game.

Even scoring can't burst this fantasy bubble. "Although it was an early suggestion," says Fox, "we decided not to put the player's score on the door of the mothership, because it would have broken the fantasy."

Fox and his cohorts have furnished video pilots with a smorgasbord of meters, lights, gauges and screens, all well-arrayed on a control panel located directly beneath the main viewscreen. "I spent a week or two with paper, drawing the panel with the instruments we'd need," explains Fox. Sometimes, that meant removing a useful, but not vital, instrument. "We originally had 4X magnification for the long-range scanner, but people seldom used it during the test games, so we took it out."

Taking things out can sometimes have as great a bearing on the quality of the finished game as what the designers actually include in the program. That's why the Lucasfilm design team made such a concerted effort to streamline the play-mechanics of *Rescue on Fractalus.* "We could have made a whole game out of landing the ship", David Fox points out, "but that would've been beside the point. That's what makes this game so user friendly."

A lot of elements which are less-than-critically important to the actual game play nonetheless do much to create a realistic feel. After you spot a downed flyer and zoom to his position, hauling him aboard your vessel isn't abstract and automatic. The spaceman runs up to the landing site and raps loudly on the hull to let you know he wants to get inside. You must then open the airlock so he can enter, and close it again to ready the ship for take-off.

The system of fractile geometry which generates the planetary landscape is another gaming first from Lucasfilm. Benoit Mandelbrot of IBM conceived fractiles and has subsequently developed the notion in several books. Loren Carpenter, who first joined Lucasfilm to work on imaging for movies, did pioneering work on fractiles and, in 1980, discovered a method which produced quick approximations of the fractile concept. His two minute film, "Vol Libre" (which translates as "Free Flight") garnered much attention with its use of fractiles.

Buoyed by this success, Carpenter next wanted to utilize fractiles in a real-time setting. Working with David Fox, who shared an office with him at that point, they started trying to apply fractiles to games. "The question was, 'Could it be scaled down?' ", Carpenter remembers. "We first thought about going for a 2½-dimension

LUCAS/ATARI

effect like **Night Driver,** but it was a little boring.

"We decided to shoot for a consistent three-dimensional environment," he concludes. "We wanted one general algorithm that creates an image in any direction." Their research produced an application of fractile geometry that was fast enough to use in the game. Fortunately, suggest Fox and Carpenter, they were working on Atari hardware. "A slower machine would have been impossible," Carpenter admits.

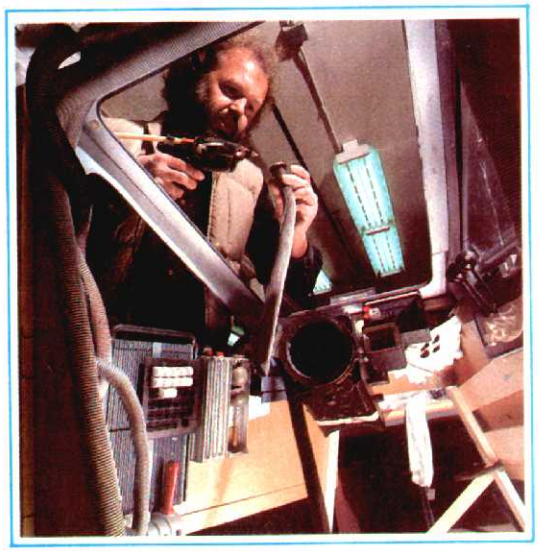
"Of course, we didn't want to say, 'Fractiles are it', and stop there, "David Fox points out. "We didn't want to get too cocky, so we spent lots of time developing the background for the game."

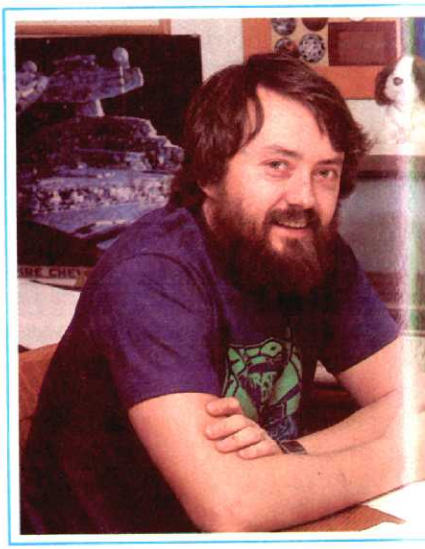
The original shape of the Atari-Lucasfilm agreement, under which the movie company was to make software suitable for the 2600, made the idea of using scaled-down fractiles unworkable. Carpenter and Fox codified their work in a document and put it aside against the day of future need.

That day came sooner than anyone expected when the focus shifted toward doing software for the more advanced Atari systems. Out of mothballs came the fractiles.

The theory may be a mite esoteric, but no one can quarrel with the outstanding results fractiles made possible. It produces a landscape of mountains and valleys which in all ways function as though they had a concrete, spatial existence. In *Rescue on Fractalus*, a pilot can fly through a cleft between two peaks, loop around and encounter the same terrain features in the same relative positions when approaching from the opposite direction!

This complex and consistant gaming environment is one of the things which stamps *Fractalus* as a "second wave" game. "Originally, there was no shooting at all," says David Fox. "A tracking ship chased you around the planet. There was a rear-view screen that helped the player keep tabs on it." Eventually, the team opted for a dash of combat and eliminated the shadow ship and rear screen.





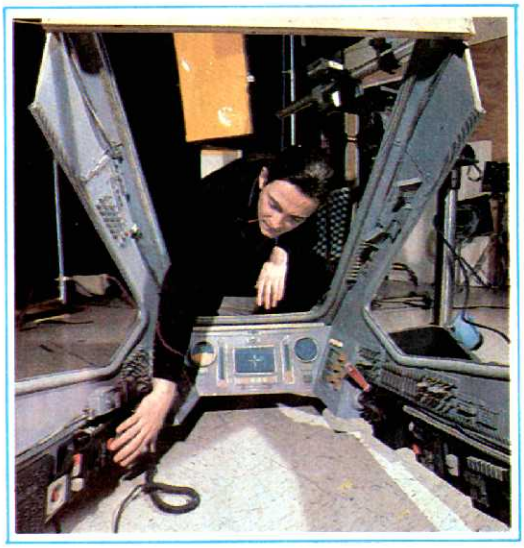
Ballblazer, the other Lucasfilm creation, is cut from a different bolt of cloth. It's a mechanized sport of the future that matches two athletes, each riding a light and maneuverable craft called a rotofoil. Each side's rotofoil cruises over the checkerboard playfield, trying to capture an elusive ball and either carry or blast it through the other contestant's goal pylons. On defense, the rotofoil is employed like a hockey or soccer goalie.

Unlike other sports simulations, the horizontally split screen shows each player what's happening on the field, exactly as he or she would see it when looking through the rotofoil's face plate. Play is head-to-head against another human, or solitaire versus any of several droid (computer-directed) opponents.

According to project leader and principal designer David Levine, getting *Ballblazer's* distinctive playing surface to look right required a major push. It was the kind of solitary battle which a dedicated designer must successfully wage to transform a good game into a great one.

The problem was a visual phenomenon called "aliasing". In the world of computer graphics, it's the term which describes the annoying stair-

Lucasfilm game designers hard at work on the elements that go towards making unusual and playable games. Attention to details, including scale models, is a hallmark of the company's games as well as of the popular series of Star Wars movies.



step effect that drawing diagonal lines generally produces.

The condition stems from undersampling by the computer. A straight line has an infinite number of points, but computers can only check a finite number in creating a representation of that infinite reality. "In *Ballblazer*, the aliasing was particularly noticeable whenever the playfield moved back and forth," recalls David Levine. Since the checkerboard stays in more-or-less constant motion, the perfectionist in Levine found it unendurable.

He hurdled this barrier by developing a mathematical model that, in the minuteness of its detail, far surpassed the capabilities of the computer system. "The model is totally independent of the actual graphics," Levine explains.

Ballblazer and *Rescue on Fractalus* are both available on cartridge for the Atari home computer, the 5200 Super System and the brand new 7800 Pro System. The 7800 versions might have an edge in graphics, but all are basically of the same high quality.

A company that loves sequels as much as Lucasfilm will probably not abandon two such lovely scenarios after only one game each. Already, there are whispers about a multi-players-per-side version of *Ballblazer*.

The prediction most likely to come true, however, is that the Games Division of Lucasfilm will again strike out in new directions. The company has a positive fear of resting on its laurels, and with a wealth of design talent on hand, those far design horizons are beckoning. So be here next year for Atari-Lucasfilm, chapter 2.

THE SOUND STORY

The sounds of "Star Wars" were nearly as exciting as the special effects, and the company's game designers would have been as apt to neglect the player's ears as his eyes. The use of music and sound effects to flag game-events and to generally reinforce the simulation in *Ballblazer* and *Fractalus* sets new standards for home arcading.

The audio for *Ballblazer* in particular is ground breaking. The staccato, percussive score underlines the immediacy of the first-person viewpoint and raises the on-the-field drama to nail-biting level.

"The development of the sound was pivotal," agrees David Levine, the guitar-strumming designer who personally supervised this aspect of the cartridge. The reaction to the basic score was nothing short of electric at Lucasfilm. "It wasn't long before people up and down the row of offices here had copies. You could walk down the corridor and hear it every step of the way," he says. "Of, course, all those tapes weren't synchronized," Levine adds ruefully.

While toiling away on other aspects of the game, it was inevitable that Levine would get to hear his catchy little tune about four hours a day. "The repetition got to me," he confesses.

At least partially to save his sanity, Levine decided to try something really radical. He contacted a number of musician friends — all professionals in the blues, jazz, rock and classical fields — and asked them to provide an improvisational phrase based on the elemental *Ballblazer* anthem. In the sports' mythos, as chronicled by its designer, each master *Ballblazer* star gets the honor of adding a musical phrase to the overall theme that, in

LUCAS/ATARI

some sense, sums up the style of play which has made him or her great.

So when you're rocketing toward the opposing goal pylons, it's to the beat of a complex, textured audio track that never sounds quite the same twice in a row.

HOW NEW IS NEW?

Are *Rescue on Fractalus* and *Ballblazer* innovative, or are they only familiar echoes from an unexpected source?

"*Ballblazer* is a logical evolution from **Pong,**" quips David Levine. In a philosophical sense, he's right. Of course, **International Soccer** (Commodore), **Starleague Baseball** (Gamestar), and, in a larger sense, every action game that uses an on-screen cursor controlled by a joystick or paddle is also "a logical evolution from *Pong*."

That said, it's fairly easy to make a case for *Ballblazer* as a real trailblazer. No sports simulation has given players the immediacy of the first-person viewpoint. Add the inventive use of audio to dramatize the action and the eyepopping visual effect of that checkerboard playfield, and you've got quite a fresh and novel game on your hands.

Ballblazer's sports simulation pedigree is too obvious to need much

RESCUE ON FRACTALUS

elaboration, but Lucasfilm's design squad has done much, much more than just refine existing play and audiovisual elements. *Ballblazer* represents a wholly new way to translate sports action to the gaming screen.

Rescue on Fractalus is hardly the first, first-person flying game to rocket across the gaming firmament. Atari's own **Star Raiders,** a long-time favorite of EG's readers, has been around for years. The greatness of this game is that it builds on the foundation of earlier efforts by immersing players in a much more comprehensive and intricately crafted scenario.

In short, *Rescue on Fractalus* is a "second generation" computer game that pushes state-of-the-art forward in a wide variety of areas. The three-dimensional terrain makes a vastly more interesting play-environment than a field of rushing stars, and the ability to present such a finely detailed planetary surface allows the program to challenge the gamer with a mission that's a bit more plausible than taking on a universe full of aliens in a single ship.

DESIGNING GAMES THE LUCASFILM WAY

It would be hard to find a more modest bunch than the Lucasfilm Games Division. From the moment the ink was dry on the Atari-Lucasfilm pact, the movie company has approached the task of creating electronic games with one eye firmly fixed on the yellow caution light.

In fact, *Rescue on Fractalus* and *Ballblazer* turned out to be a highly successful example of "learning by doing". Originally, both games were intended as merely a pilot project, a couple of titles that Lucasfilm could carry from conception to cartridge to get the hang of the process. Steve Arnold's charges learned the necessary lessons so quickly and so well however, that their initial programs turned out to be right up there with the best.

The use of strategies developed in the course of making the "Star Wars" trilogy and other movies is what separates Lucasfilm from other design houses. The approach epitomized by the tavern scene in "Star Wars" helped shape **Ballblazer** and **Rescue.**

With software, as with movies, Lucasfilm believes in compiling detailed descriptions of the reality to be simulated before worrying about the simulation itself. Just as every alien in the cantina has a detailed species and personal history that never comes directly into the film, Lucasfilm's game designers can tell you everything—from what the pilot's uniform in *Rescue* looks like and when and how Ballblazing become the most popular sport in the cosmos. Lucasfilm has even constructed three-dimensional models of key objects like the rotofoil.

It is, perhaps, too soon to evaluate the contribution of Lucasfilm to game design. But if creating entertainment software is truly an art form, then the folks who gave us Luke Skywalker and Darth Vader are major contributors to the perfection of that art.

A sample of some of the details of *Ballblazer* in the planning stage.

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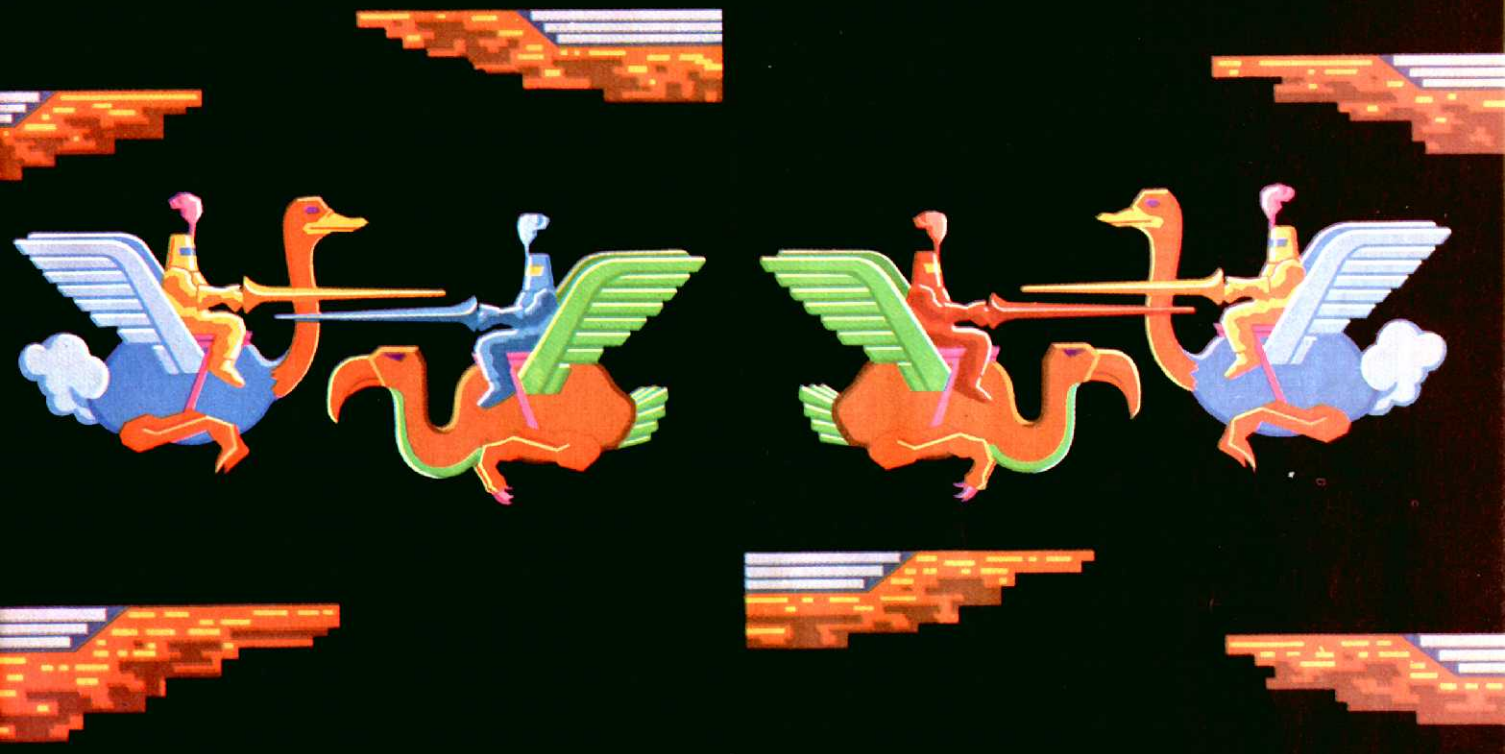

Which player is winging his way to victory?

When Joust* flies into your living room you might think you're in the arcade. Because, just like the arcade, this Joust is a duel to the finish. But remember that some jousts are worth more than others. The knight on the right, for example, is about to score 500 points for lancing a red Bounder. But the knight on the left will score three times as many for skewering a blue Shadow Lord. That ought to needle his opponent.

You can spear yourself a lot more points. Especially in the Egg Wave. Pick up as many eggs as you can before they hatch. The first egg's worth 250 points, the second 500, the third 750, and the fourth 1,000 points.

Only Atari makes Joust for the ATARI® 2600™ Game, Sears Video Arcade† systems, and versions exclusively for the ATARI 5200™ SuperSystem and all ATARI Home Computers.

So mount your ostrich and descend on your nearest store. For Joust.

ATARI

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EG's Exclusive Report on the New Advanced Videogame.

By STEVE DAVIDSON

Atari is hoping that success for its 7800 Pro System will be just a matter of simple arithmetic. Flouting the warnings of nay-sayers who've already got videogames dead and buried, the manufacturer is betting that the best features of the 2600 plus the best features of the 5200 plus some entirely new features will add up to overwhelming consumer acceptance for the 7800.

Atari bases its faith in this system, which is expected to sell for $120-$150 at discount outlets, on extensive consumer research. "This is an upgrade market," asserts Joel Oberman,

Introducing THE

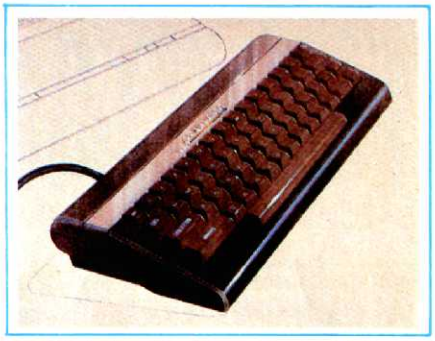
director of the Entertainment Software Group at Atari Products Company. He explains that though sales of the 2600 continue strong, because price reductions have made the machine more available to less affluent families, many of those who cut their gaming teeth on the good old VCS are now ready to purchase a more sophisticated videogame unit.

Atari's research indicates that those who are most likely to buy an advanced videogame system want three things: lots of cartridges, outstanding graphics, and expandability. The Pro System, the Sunnyvale, Ca. company feels, is a machine that can satisfy all of these wants.

The 7800's biggest bragging point is its new "Marie" graphics chip. All this 48-pin IC with its 24,000 individual transistors does is totally replace player-missile graphics, the system for producing computer visuals used on all previous Atari hardware.

Remember when player-missile graphics represented the state-of-the-art? Forget it. The Marie chip unchains designers by removing most, if not all, of the limitations associated with putting images on the computer gaming screen.

The Marie chip makes it possible for 7800 cartridges, unlike programs for older systems, to move any number of objects of any size in any combination of directions on the screen simultaneously. To put this new advance in proper electronic gaming perspective,

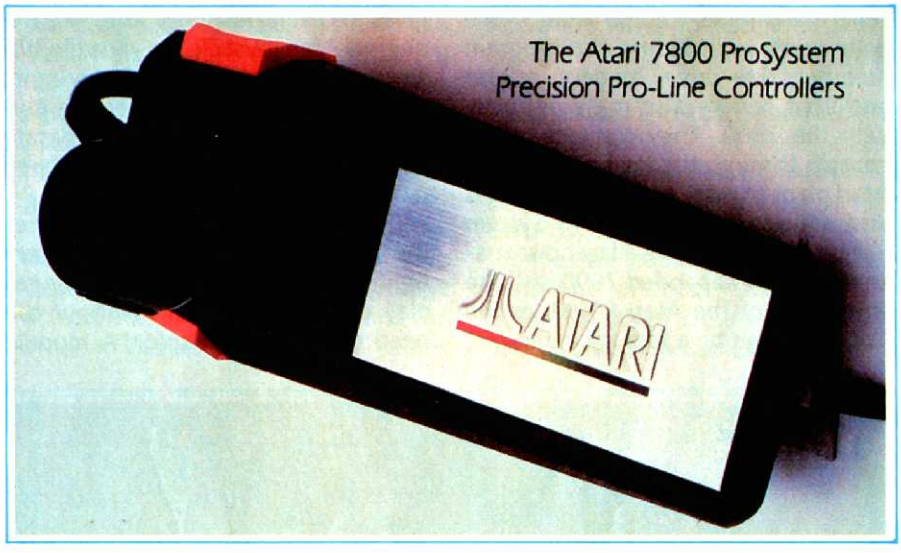


Atari plans to release a keyboard to give gamers a taste of computer life.

the 7800 edition of **Robotron** has an upper-level playfield with more than 70 crazed robots zipping all over the screen at the same time. Another indication of the 7800's graphics power: The mounted hero in the 7800 version of **Joust** is a figure composed of 10 different colors.

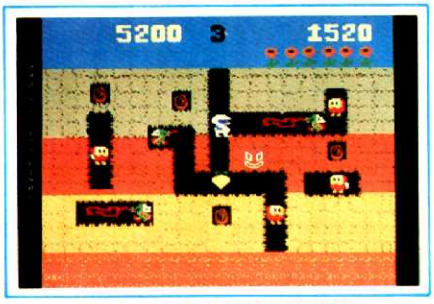
Not only does the 7800 have visuals which outshine any other videogame, but its graphics are also superior to all computers currently on the market selling for under $1,000. Gamers told Atari researchers that the graphics of

The Atari 7800 console (above, left) and its new controller (below).



ATARI 7800

THE ATARI 7800



DIG DUG (ATARI 7800 VERSION)

the 7800 are up to 50% better than those for other systems. Whatever the actual margin, there's little question that the Pro System sets a new standard of excellence.

The 7800 is primarily a game-playing machine, but adding the separately available full-stroke keyboard can give gamers a taste of what computers are like and how they work. All serial peripherals for the Atari home computers — including the program recorder, disk drive, modem, printer and light pen — also mate perfectly with the 7800. They connect to the console through the keyboard, which Atari plans to retail at under $100. It is also anticipated that the Pro System will be connectable to a laser disc machine. A fully expanded 7800 isn't the equivalent of the Atari 800XL or the like, but it can be a tool for improving computer literacy.

The 7800 console clearly bears the marks of its Atari lineage, resembling nothing so much as a smaller and more streamlined 5200. A line of four buttons, located on the top panel toward the front of the machine, governs "pause", "select", "reset" and "power". Two nine-pin ports accept a pair of the new Pro Line controllers, though any command control device that works with a 2600 or 800XL will also function with the 7800.

Atari is particularly proud of the Pro Line controllers. According to Joel Oberman, "We were surprised when they tested better than anything, even the standard Atari joystick." The company is determined not to draw flak from gamers about the controllers for its new system the way it got criticism on the 5200 stick. The two-button unit gives excellent response and, like the original Atari joystick, is a versatile, all-around model that should play most games pretty well. The Pro Line joysticks will be available for separate purchase, but the price has not been set yet.

Compatibility with the 2600 assures the 7800 of a huge software library right from the start. All 2600 cartridges play on the Pro System without the need of a special adapter. A module which Atari intends to offer to owners of the 5200 allows that machine to run carts designed for either the 2600 or 7800.

Compatibility with the 2600 is good news, especially for gamers who already own dozens of still-playable VCS titles, but the 7800 will ultimately live or die based on the quality of the software specially created for the new system. Fortunately, Atari is aware of this, too, and is putting lots of muscle behind a two-pronged software development effort aimed at producing both home translations of popular coin-op games and all-new programs designed expressly for play in the home.

At this writing, approximately a dozen games are ready for shipment concurrently with the introduction of the 7800 itself. Most of the games are translations, because the development process is always faster when the designer is working from an existing contest, but there should be at least several new creations on tap by the time the system rolls into national distribution. The typical 7800 cartridge is 32K ROM and carries a retail roughly comparable to present 5200 or 2600 carts.

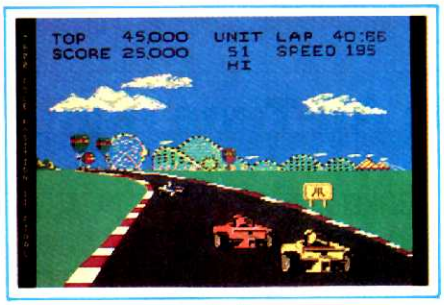
Another accessory available for the 7800 is the high score cartridge. When this is plugged into the console's slot and another cart is inserted on top, the player can save the scores of up to 300 rounds of gaming.

THE 7800 SOFTWARE LIBRARY

Since, as this magazine's motto says, "The play's the thing," let's get down to the main event — the car-

NILE FLYER (ATARI 7800)

ASTEROIDS (ATARI 7800)



POLE POSITION (ATARI 7800)

tridges themselves. Here's a brief, title-by-title rundown:

Ms. Pac-Man. Programmed by the same designer who coded the Bally coin-op, the home version for the 7800 has all the intermissions, mazes and bonus prizes that make the lady gobbler queen of the amusement centers. There's even a full-scale attract mode. Perhaps more important, controller response is superb, making this an exemplary cart.

Dig Dug. Atari — and its AtariSoft division — has already done several fine translations of *Dig Dug*, but the graphics capabilities of the Pro System make this the best of the best. The striated colors used to create the playfield are straight from the arcades.

Asteroids. Atari has taken the popular play-mechanic of the classic *Asteroids* and enhanced it with a wholly new set of visuals. Gone are the vector graphics, replaced by highly detailed and colorful images. Atari was somewhat circumscribed in what it could do when translating games licensed from other companies, but it pulled out all the stops for this spectacular *Asteroids*.

Centipede. As with many of the 7800 cartridges, this one can be played by two players as well as solitaire, with a pair of gamers either cooperating or competing to sweep the garden clear of insects, spiders and such. Certain to keep nerves from fraying is the fact that, in the team mode, one player can't accidentally blast his or her partner.

Robotron. Like its 5200 counterpart, this cartridge will come with a holder to clamp the joysticks into place so that a control system just like the play-for-pay machine can be used. As mentioned, the Marie chip makes possible a tremendous amount of on-screen movement, giving this cartridge the high excitement level gamers will fondly recall from the Williams Electronics machine.

Xevious. This is the first home edition of Atari's 1983 science fiction coin-op. The gamer directs a ship over a multi-screen terrain map and, using the appropriate fire button, can strafe or bomb a variety of targets. The home edition is said to feature a playfield as extensive as the arcade title.

Pole Position II. Here, Atari does a great game one better. Four new courses, great crash sounds and charming scenery make this one first-class, from starter's gun to checkered flag. It is the game which comes packaged with the 7800. Eventually, Atari plans to make the game resident in the machine, something about which few gamers are likely to complain.

Joust. The previous Atari translations of this Williams coin-op have duplicated the play-action and made at least a decent stab at simulating the original visuals. This edition comes

JOUST (ATARI 7800)

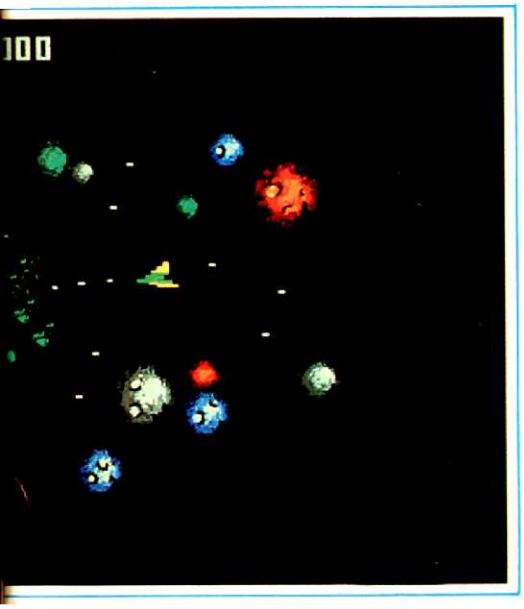
about as close to coin-op quality as anything you're going to see presented on a conventional TV set.

Galaga. This is the first home edition of a classic Midway coin-op that has been taking in quarters and tokens for years. The 7800 cartridge has all the screens —and all the bonus play features — of the play-for-pay device, including the **Galaxian**-like phase.

Sphinx. The title of this diagonally scrolling action-adventure wasn't definite at presstime, but it should be well worth gamers' attention, whatever name appears on the opening credits. The arcader controls a bird which can fly, walk and swim, depending on the terrain, while firing deadly bolts at evil birds, scarabs, and the Sphinx. There are clues to find, treasures to loot and much more in this Egyptian map.

Ball Blazer and **Rescue on Fractalus.** (See full descriptions of these games in this issue's cover feature.) Both of the Lucasfilm games will appear as 7800 cartridges. They're essentially the same as the computer and 5200 editions, but with better graphics.

For reviews of these and other 7800 games, stay tuned to **EG**.



XEVIOUS (ATARI 7800)

HERE COME THE NEW COIN-OPS!

Sports Games Hit All-Time High

By BILL KUNKEL

Commercials for the fall TV shows will shortly make their debuts on home sets while arcades from coast to coast are set to premiere the latest wave of electronic amusements. And just as the networks sit with crossed fingers, hoping desperately that the next "Dallas" lurks somewhere on the line-up, the coin-op manufacturers pray that this year's **Pac-Man, Space Invaders** or **Dragon's Lair** resides on their release schedule.

Coin-ops have traditionally represented the leading edge of the electronic gaming universe in terms of both technology and artistic achievement. Home games have generally been measured against the arcade yardstick, attaining status and success in direct correlation to their ability to ape some coin-op cousin. That era, however, is in the process of ending abruptly.

With the rise of high-memory programmable systems and the proliferation of microcomputers on the scene, the home product has ceased living in the shadows. Technology has liberated software companies such as DataSoft, Synapse, and Electronic Arts, which are taking home games in new directions, down paths where, in many cases, coin-ops just can't follow. No longer are home arcaders content with yet another *Pac-Man* or *Space Invader* clone — not when games like **Archon** and Epyx' **Silicon Warrior** blend the best characteristics of strategic and arcade-style contests.

How far have home games come in relation to coin-ops? This question is best answered by the fact that arcade game manufacturers have performed a complete about-face within the past year and have actually begun licensing computer software hits for coin-op translation! Exidy, for example, has just announced a historic deal with First Star Software in which it snagged the arcade rights to several computer hits, including the best selling **Astro Chase** and **Boulder Dash.**

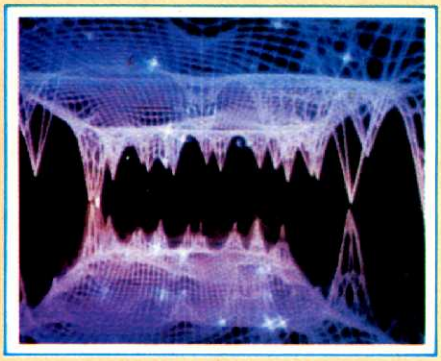
BOULDER DASH (FIRST STAR)

What's going on here? Remember that arcade games are bound by far tighter format restrictions than home games, which can explore any direction. Coin-ops can't be too complicated lest players become confused and discouraged after a few plays. Coin-ops should, ideally, be based on a simple premise, involve a high degree of hand-eye skill, and must be playable in a highly elastic time-structure. Last year's surprise hit from Taito, **Championship Baseball,** was one of the first non-racing sports games to turn on the arcade world in years. Sports games had been overlooked in the past because their minimum play-time was considered too long for a coin-op. As we shall see, this is one of many things which have changed dramatically in 1984.

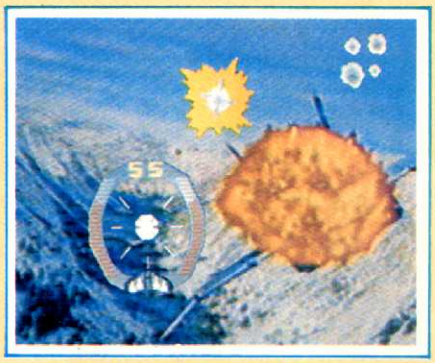
Arcades thrive for a very simple reason: They offer something that gamers can't get anywhere else. Even with the vastly improved memory capacity of home entertainment/computer systems, a coin-op game should, theoretically, still hold the advantage. An arcade game is, after all, built to play just *one* game, whereas home systems must be constructed to play an *infinite* number of them. Coin-ops can use clear plastic overlays, special control mechanisms — such as the **Crossbow** on the Exidy coin-op of the same name — and experimental new technologies.

The most recent wrinkles on the arcade scene of course, are laserdisc games. After the success of the Cinematronics/Bluth Studios hit, *Dragon's Lair,* many industry insiders predicted that the entire coin-op world would go laserdisc. Two factors — the

CROSSBOW (EXIDY)



INTERSTELLAR II (FUNAI)



M.A.C.H. 3 (MYLSTAR)

inherent limitations of videodisc and the incredible improvement in digitized computer generated graphics — have served to consign these games to a relatively small corner of the arcade universe, right next to the vector-graphics contests such as **Star Wars** and **Cosmic Chasm.**

Several new coin-ops utilizing laserdisc technology *will* appear this fall, of course. Cinematronics is finally getting its long-delayed follow-up to *Dragon's Lair* into the arcades, but whether or

SPACE ACE (STARCOM)

not **Space Ace** makes as big a splash as its predecesser is still up in the air. *Space Ace* moves much more smoothly than *DL*, but nonetheless employs the same play scheme — directional joystick for movement and button to inaugurate a predetermined (by the machine) action.

Funai has **Interstellar II,** a sequel to the dark horse hit of last year. As in the original, players move an on-screen space vessel through a surreal landscape as seen from a head-on perspective. Both the original and this follow-up employ bizarre, fluid graphics of a type most commonly associated with computer-created images.

The most interesting of the new laserdisc games is Atari's **Firefox,** a title based on the Clint Eastwood film. Playing substantially in the same situation as Mylstar's **M.A.C.H. 3, Firefox** makes the gamer the pilot of a supersonic fighter flying over a topography of actual, filmed images. *Firefox* doesn't represent a quantum leap over existing laserdisc games, but it *does* incorporate a number of intriguing new touches, most important being the ability of the player-pilot to turn barrel rolls, spinning completely around as the jet passes over its land and sea targets.

The major trend this fall, however, is not laserdisc games, but rather a genre that has been generally overlooked and disdained by the coin-op biz —

NFL FOOTBALL (BALLY/MIDWAY)

sports contests. Leading the pack are Konami's hot **Track & Field** (the home rights to which have reportedly been picked up by Atari) and Bally's **NFL Football.** The latter offers considerably more strategy than anything coin-oppers have heretofore seen. Using a highly sophisticated series of pre-programmed players, gamer pilot either the San Diego Chargers or the champion L.A. Raiders. After each play is called, the machine runs the play visually so we can see what happens

M.A.C.H. 3 (MYLSTAR)

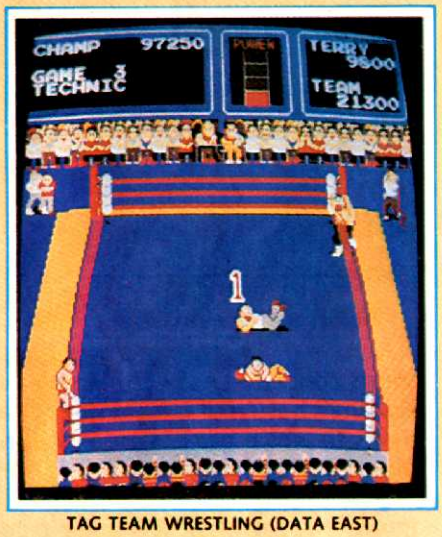
for ourselves. Should this game fly, Bally is reportedly already tuning up an "upgrade" that will pit traditional rivals, the N.Y. Jets against the Miami Dolphins.

Other football contests include Stern's **Goal to Go,** which utilizes videodisc footage of actual pigskin action, and Taito's **10 Yard Fight** which condenses the action down to the almighty struggle for a first down.

Fans of Olympic action, meanwhile, will enjoy another Stern laserdisc contest, **Gold Medal (with Bruce Jenner).**

Then there's Nintendo's **Punch Out,** for arcade pugilists everywhere. A two-screen contest, *Punch Out* offers a unique, heads-on perspective with the player-surrogate's gloved hands visible in the immediate foreground

THE NEW COIN-OPS



TAG TEAM WRESTLING (DATA EAST)

TAG TEAM WRESTLING (DATA EAST)

and the opponent directly facing the monitor. Coin-op Rockys must go up against five challengers successfully in order to get a shot at the title, held by the notorious Mr. Sandman.

Fans of hand-to-hand action should also get a "kick" out of Data East's **Tag Team Wrestling,** an amusing and realistic contest in which arcaders guide the fate of two babyfaced heroes as they go up against the Mad Maulers, as unwholesome a team as was ever managed by Fred Blassie or Captain Lou Albano! How nasty are the Maulers? After tossing one of your grapplers out of the ring on his ear, the vile no-goodnik will frequently follow him out onto the floor in order to bash his head into the ringpost! How realistic is this contest? Everything from dropkicks to Pile Drivers are included among the wrestling repetoire and, when the action spills out of the ring, watch out for an interfering fan who jumps out of his seat to join in!

TX-1 (ATARI)

Although this is the first autumn in memory not to feature a new *Pac-Man* or **Donkey Kong** entry, there are a brace of interesting sequels on the scene. Cutesy **Mr. Do!**, Universal's moneymaking harlequin, is back for a third go-round in **Wildride,** an adorable roller coaster amusement. Meanwhile, **TX-1** from Atari, is perhaps the ultimate version of **Pole Position,** spreading the auto action over no less than *three* monitors!

Conversion kits — new game programs designed to fit into the pre-existing cabinets — are still big business. Atari is offering operators **Cloak and Dagger,** a spy-vs.-spy videogame, and SNK Electronics has **Marvin's Maze,** a gorgeous new full-dimensional, dual-level maze contest.

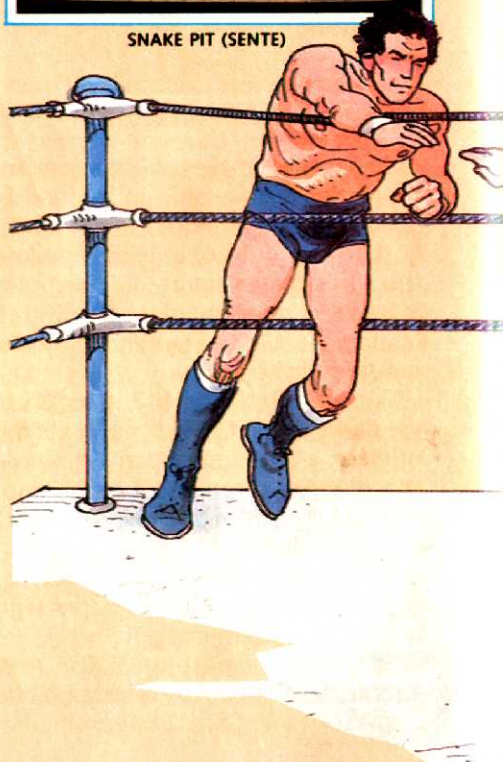
Sente Technologies, Nolan Bushnell's ballyhooed comeback to the arcade industry, has released a pair of interchangeable conversion coin-ops, **Snack Attack** and **Snake Pit.** The former is a graphically intriguing but otherwise dismal trackball-controlled entertainment in which a rubber-necked protagonist's head must be maneuvered in order for his mouth to catch the constant rain of foodstuffs filling the playfield. *Snake Pit* is a slightly more interesting multi-scenario contest in which a whip-wielding protagonist must lash out at a nest of serpents in a reptile-invested chamber.

Taito has two new titles starring Zeke, their hero from **Zoo Keeper. Tin Star** is a western-style videogame with Zeke cast as a Sheriff engaged in a wild shoot-out on the streets of an owlhoot-infested old West town. **Zeke's Peak,** meanwhile, is a non-video contest in which gamers must move a tilting ledge up the front of a slot-filled playboard, dropping metal balls into the appropriate holes.

Centuri/Konami has a new cute game in the mold of *Track & Field.* Dubbed **Circus Charlie,** it stars a tiny clown jumping through rings of fire, walking a tightrope, balancing on balls, practicing bareback riding stunts, bouncing on a trampoline and swinging on a trapeze!

The most talked-about new coin-op on this fall's schedule, however, is undoubtedly Midway's **Tapper.** Casting

SNAKE PIT (SENTE)



TIN STAR (TAITO)

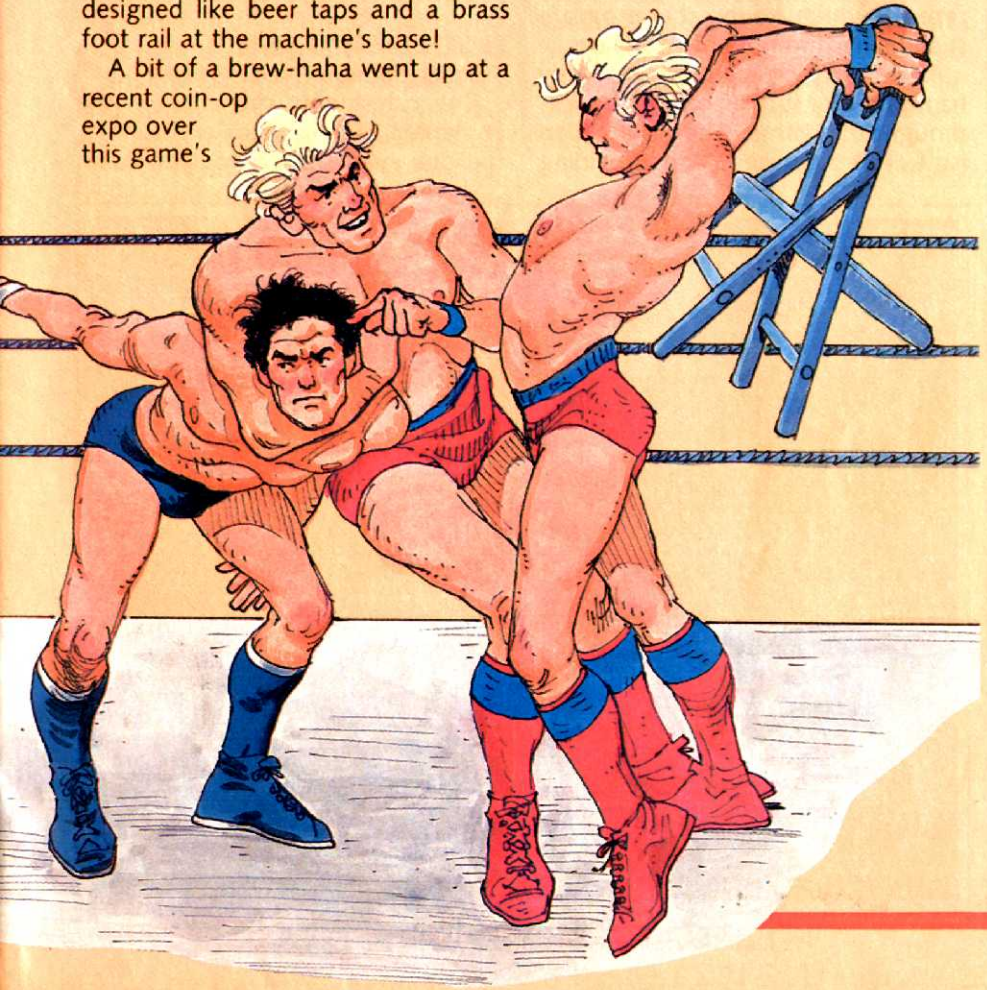
TIN STAR (TAITO)

TIN STAR (TAITO)

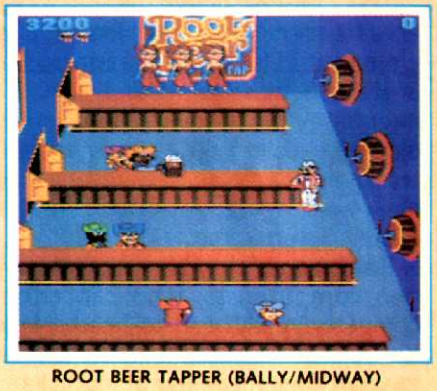
players as bartenders, who must first pay their dues at a wild western saloon before moving on to the main playfield in which they must keep those mugs filled with suds while catching the empty glasses as they slide across the bar and picking up tips left by grateful customers. Skilled barkeeps will even find themselves tending bar in a Star Wars-style cantina, full of the most unlikely patrons ever to down a Bud. (Bally made a licensing deal with Budweiser, by the way, and the Bud logo is featured prominently here). Especially endearing touches include joysticks designed like beer taps and a brass foot rail at the machine's base!

A bit of a brew-haha went up at a recent coin-op expo over this game's alcoholic content, but Bally scotched the controversy by announcing that *Tapper* is destined exclusively for taverns. An arcade version, **Root Beer Tapper** is being readied, meanwhile, for arcades.

Of course, arcades have thrived — when they haven't floundered, that is — on offering arcaders something that they couldn't get at home. The growing slickness and inventiveness being displayed on the home front has, to a certain extent, backed the coin-op industry up against the wall. The arcade folks have, therefore, begun to repond by producing entertainments that exceed anything previously seen.



Krim & Zort are not the Venusian version of Simon & Garfunkel, but rather they're a pair of robotic warriors who do battle on a three foot by three foot tabletop. Produced by ZAP (Zany



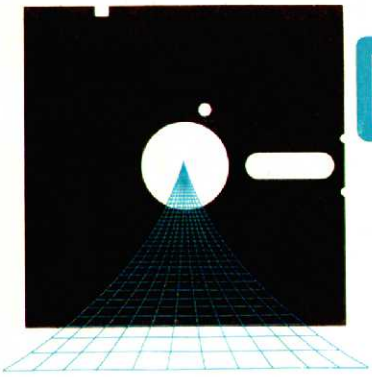
ROOT BEER TAPPER (BALLY/MIDWAY)

Animated Productions), both the little guys can move their heads, mouths, tails and wings. Their little peepers light up and they fire laser beams at one another in a contest that can be played either head to head or solitaire against the computer.

In Dallas, Texas, meanwhile, what its creators have entitled "a living video game" is set to make its debut. **Photon** is a humongous amusement construct in which gamers, clad in helmet and toting a phaser weapon, move freely about the high-tech topography in a simulated science fiction shootout.

How successful will these new novelty contests be? It's difficult to tell. Still, one thing is certain — you won't be able to play these game on a C-64. . .

. . .at least, not YET.



COMPUTER GAMING

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SOFTWARE SHOWCASE

BRUCE LEE

Designed by Ron J. Fortier & Kelly Day
DataSoft/Atari computers/32K disk

This mission-completion game offers a fresh and intriguing blend of play elements. The joystick-controlled Bruce Lee must jump and climb to negotiate the tri-level, three-screen playfields, collect prizes (hanging lanterns) and battle against a black-clad ninja wielding a *bokken*-stick and the deadly Green Yamo.

Bruce Lee is playable solitaire or by two computerists, who can either compete directly head-to-head or take turns against a machine opponent. As the now-legendary star of martial arts movies, Bruce Lee, gamers can reap untold riches and learn the secret of immortality — booty worthy of any cinematic hero! — by penetrating to the heart of a many-roomed fortress to confront its mystery master, the wizard.

Combining joystick movements with use of the action button, the control system makes it possible for Bruce Lee to run, jump, kick, punch, climb and duck. The on-screen battler can survive a total of five combat losses to the Ninja and Green Yamo. Bruce Lee can take an extra fall once the gamer accumulates 40,000 points, and he gains another at each 30,000-point milestone thereafter. There's even an easy method for re-orienting the joystick to make command input simpler for lefthanders.

Although Kelly Day's graphics are good, even excellent in spots, there's a pretty obvious trade-off of visual brilliance for dazzling play-action. *Bruce Lee* is a good-looking game, with nice animation of the principal characters, but the real attraction is the varied playfield environments which designer Ron Fortier has created. By collecting the right combination of lanterns, Bruce opens gates which allow him to advance from room to room on the way to the final showdown with the wizard. Every phase is completely different, which keeps the program stimulating through untold replays.

The instruction manual is curiously haphazard for such an otherwise well-thought-out game. The information isn't well-organized, and providing more data about the game situation would make it a lot easier for home arcaders to get into the swing of things.

Bruce Lee won't be mastered overnight, because playing well requires learning how to combine a wide assortment of moves and strategies. But learning when to leap for safety and when the duke it out with Yamo and his shadowy pal gives the disk an aura of excitement that's tough to beat. This is a truly unique program that takes gamers on a wild — and dangerous — trip into nonstop heroics. So put on your black belts and let's go!

(Arnie Katz)

BOULDER DASH

First Star Software/Atari/32K Disk

The cutest new character on the computer gaming block is Rockford, the doe-eyed star of **Boulder Dash.**

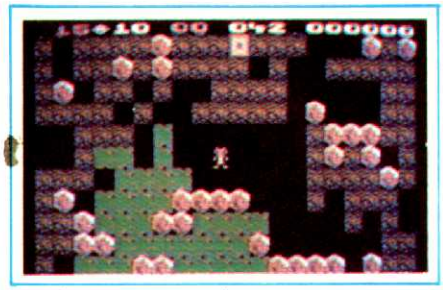
BRUCE LEE (DATASOFT)

This crusty little cave creature not only blinks his eyes randomly in a very lifelike manner, but he even prompts gamers who are too slow on the stick by tapping his foot impatiently when left alone too long. His reminders aren't in vain, though, because each turn is a race against the clock to collect all the jewels on each screen, then find the exit door and go on to the next level.

Little Rockford's job is to dig through 16 different playfields of soft, boulder-strewn earth filled with the glittering diamonds. Any time he dislodges a boulder (by either moving or digging directly beneath it), the rock falls until it reaches solid ground. Rockford can outrun any falling boulder — as long as he doesn't hesitate. If he's caught by a rock, or even by a jewel dislodged from its place, he loses a turn. It's also possible to be trapped on all sides by unmovable rocks (when this happens, press the "escape" key to reset the screen).

Most screens require advance planning to keep from blocking off the escape door with piled-up boulders, and even at the easiest of five difficulty levels, it's no small feat. Loosing the bottommost rock in a group creates an appropriate landslide of falling debris, animated realistically and with good sound effects.

Boulder Dash's only weak point lies in its instruction book. Completely devoid of illustration, it doesn't help gamers figure out that the flashing squares are dangerous fireflies, for example, or which walls can be broken through with boulders. (The rule book also doesn't explain *how* to break



The going gets rocky in *Boulder Dash.*

walls.) Still, devoted dashers will eventually surmount this problem through the ol' "thrill of discovery" method.

The program itself has plenty of user-friendly goodies that keep players from getting bored too quickly. Before starting the game, a player can use the joystick to select which of four caves Rockford will enter, though once inside he must progress through all that cave's screens. Five difficulty levels, plus two playable intermission screens, add spice to an already-good game.

Veteran computerists will appreciate *Boulder Dash's* ultra-playable blend of fast action and brain-teasing strategy. This is one game that can't be mastered in a mere few play sessions. If you want a good run for your money, *Boulder Dash* could be just the thing!

(Tracie Forman)

RAINBOW WALKER

Synapse/Atari/32K disk

Here's an unusual color-changing game, **Rainbow Walker,** a pretty action contest set high above a mythical kingdom. Evil forces have turned the rainbow gray, and only the brave Cedric can restore it to its former brilliance. Equipped with rainbow-walking boots, he hops along the airborne pathway, which scrolls forward and back across the horizon. If Cedric moves even one toe off the rainbow, he falls off and loses a turn.

Of course, there are plenty of nasties out to stop his heroic exploits, and each has a unique way of foiling his progress. For example, there's a hovering bird that plucks him off the rainbow and carries him off to parts unknown, undoing all the work he's done so far. Another creature picks him up and drops him on another square. Still another bad guy simply chucks him over the side.

Cedric can temporarily freeze oppo-

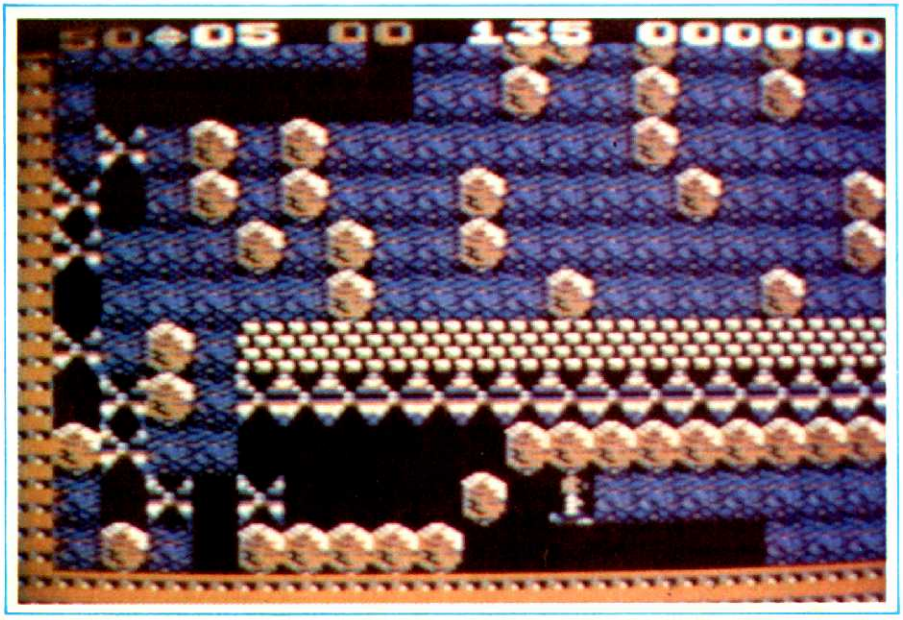
RAINBOW WALKER (SYNAPSE)

nents in their tracks by hopping on to a patterned square (which always remains gray). As long as he doesn't move vertically, the enemies remain frozen. But he can't linger too long on the patterned area, because it quickly disintegrates under his weight.

The game awards a bonus round each time a rainbow is completed. To earn bonus points, Cedric has to hop back and forth between constantly appearing — and disappearing — squares. If he stays in one spot too long, the ground literally falls out from under him. There are never more than four squares on-screen during a bonus round, and the longer Cedric keeps his footing, the higher the bonus tally.

Rainbow Walker is especially ear-pleasing, though detailed graphics and instructions aren't the game's strong points. Still, the sky changes color as the sun goes down, and the moon rises over the night firmament. It's pleasant touch, and a pleasant game that has a way of growing on the player.

(Tracie Forman)



It's Rockford versus rocks in First Star's *Boulder Dash*

JACK ATTACK

Commodore/Commodore 64/Cartridge

Splat! That's the sound of that little red rotund rascal, Jack, landing on one of the equally roly-poly creatures who fight against him for survival through 22 incredibly challenging playfields. **Jack Attack** is one of several recent releases, including **Bouncing Kamungas** and **Squish 'em,** to capitalize on this particular play-mechanic, but no other program puts the idea to such effective use by combining it with concepts first developed in the climbing and jumping contests.

Three elements are combined in various ways to create each playfield's strategic challenge. There are large square boxes, some horizontal platforms and a line of enemy invaders strung out along the top of the screen. Jack can leap up to three blocks in height using the joystick and has the additional power of shifting boxes. To do so, Jack moves next to the desired block, the player depresses the action button, and Jack can then push or pull the square as desired. Smashing an attacker between two blocks, as in **Pengo,** can be quite deadly.

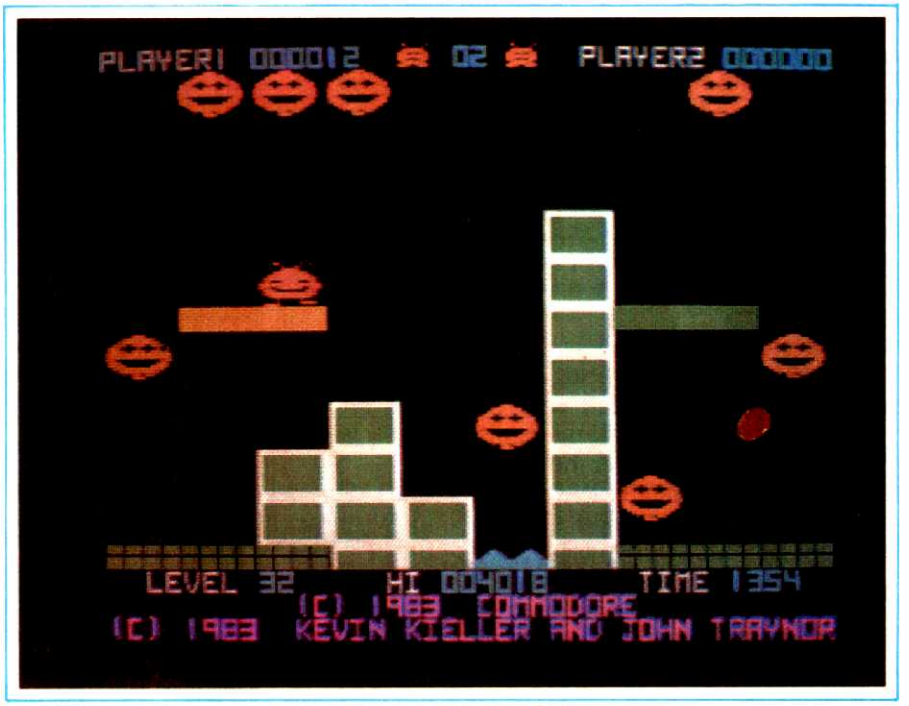
The computerist gets points for moving boxes, destroying attackers, and landing on all platforms before time runs out. There's also a countdown bonus clock for each playfield, and the player gets all unused time added to the point total. Failure to dispatch all the enemies before the clock hits zero doesn't end the round, as in **Donkey Kong,** but you won't pick up extra points, either. The horizontal platforms disappear as time runs out, causing an avalanche that can bury Jack under the rubble if the player isn't nimble with the joystick.

Jack Attack has fairly simple visuals, but what's on the screen in superb. As with most C-64 programs, there's not much sound until the action gets rolling, but the tunes are terrific from that point onward.

An option screen gives the player (or players, since two can compete taking alternating turns) a choice of levels at which to begin. Neophytes had better start with the first screen, because even that one may cause some frustration until the course of play becomes familiar. Don't be embarrassed when Jack gets crushed by a big fat block you've moved the wrong way within a few seconds of hitting the action button to start the round.

Jack Attack is a clever and innovative design that provides really fresh action game fun for the Commodore 64. It is certainly a difficult game to master, since it requires both manual dexterity and quick wits.

(Arnie Katz)



JACK ATTACK (COMMODORE)

SPECTRON

Spectravideo/SV-318

As a relative newcomer to the home computer field, it is only fitting that SpectraVideo has stuck to basics, and one of the first games offered for Spectravideo's SV-318 is a version of the classic invasion from space theme.

Since so many of this genre have gone before, it is difficult to add the new twists necessary to keep any such game from being nothing more than a "me too" clone.

Luckily, **Spectron's** blend of play mechanics works well enough together to produce a solid, enjoyable shoot-em-up.

Phalanxes of aerial aliens march across a highly detailed and extremely colorful planet background as in **Space Invaders.** Some of the hostile craft called Sinkers peel away from the main body in a manner highly reminiscent of **Galaxian,** while the bombs they dispatch fall in **Demon Attack** fashion.

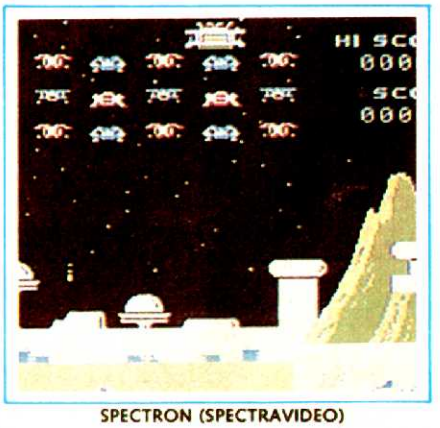
Given four ships, planetary defenders must utilize them one at a time to destroy the advancing craft as well as a Mother Transport which crosses high overhead periodically. Hitting this is worth a relatively hefty bonus because it carries 18 of the smaller attack craft.

A segmented shield protects the defensive position until the enemy firepower obliterates it. Since this happens rather quickly, the shield is of little consequence. As in **Gorf,** the force field also restricts arcaders' fire.

If enemy vessles enter the base, they plant time bombs. When 9 have been planted (there is no way of removing them), the game is over just as surely as when all the spectron fighters are destroyed.

The variegated shields and busy background sometimes make it difficult to spot incoming rounds. Another somewhat negative aspect is the low scoring potential. For example, the second highest award is presented for scoring over 3500 points, while the highest is for earning 20,000 or more. Good luck, 'cause you'll have to be a real fanatic to do it

Summing up the two-player option, multiple skill levels, well thought-out



SPECTRON (SPECTRAVIDEO)

blend of play mechanics, sensational visuals, and adequate musical score, this tape provides the solid action and challenge needed for extended playability.

(Ted Salamone)

QUEEN OF HEARTS

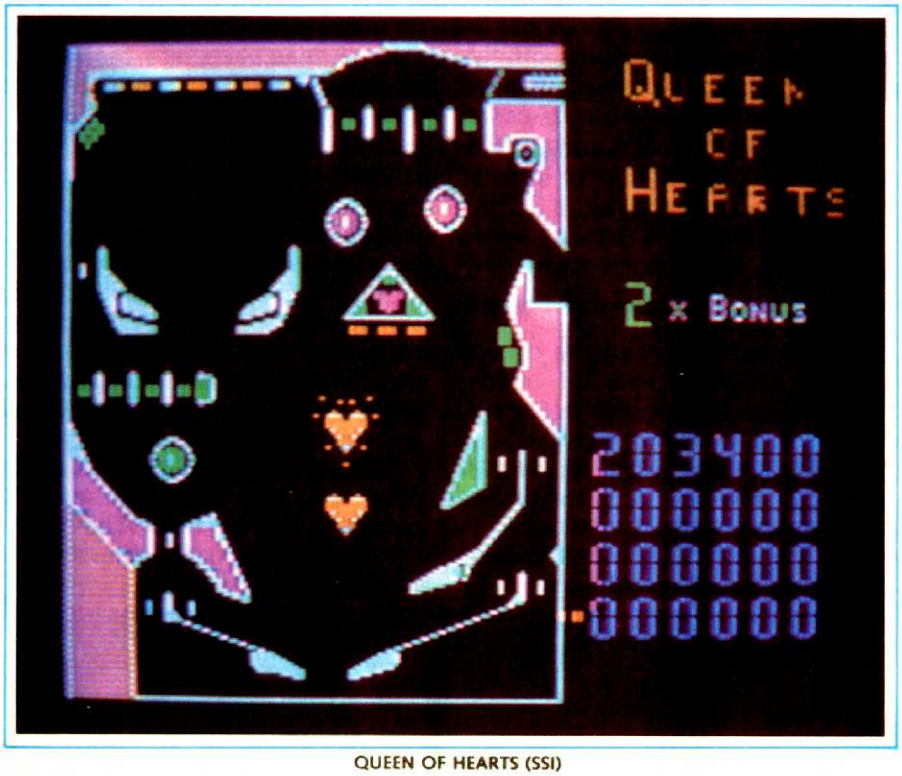
Strategic Simulations/Apple II/48K disk

When SSI broke out of its war/sports strategy series with its Rapid Fire game line, many assumed that it would mean yet more mindless, action - reaction games on the market.

As games like **Cytron Masters**, **Galactic Gladiators** and **The Warp Factor** proved, the new line was still designed for thinking gamers who wanted just a bit more action.

Yet none of those games relied as heavily on capturing arcade charm as SSI's entry into the already-crowded world of pinball simulations. This time it's the **Queen of Hearts**, which has all of the features you'd expect from a conventional table: sequential scoring, five flippers spread over two levels, tilts, and an attractive screen display that keeps track of up to four players competing at once.

The top 20 scores are saved to disk and remain intact for the next play session. John Lyon, who created this game as well as **The Shattered Alliance** and **S.E.U.I.S.**, has encountered some problems with this effort.



QUEEN OF HEARTS (SSI)

COMPUTER GAMING

First of all, one of the right side flippers occasionally has its tip separate from the main section of flipper. As the tip sits on the screen while the ball is still in play, it is both distracting and disturbing to wonder what part of the machine will next come apart.

Another problem comes from the elasticity of the bottom flippers. Just letting the flippers sit without flipping at all will send a tumbling ball more than halfway back up the table.

Finally, in the upper left corner of the screen, the upper table, has two small flippers to protect the ball from dropping back down to the lower portion of the table. When the ball does drop through there, it is at least a 50/50 chance it will continue in funnel-like fashion to a left-side drain and be lost forever. There aren't enough bonus points in that area of the table to make it worth the risk.

There are only three balls per turn, but once some rhythm has been established, the gamer can keep each alive for a long period of time.

For all its shortcomings, *Queen of Hearts* is an enjoyable game and rightfully deserves its place in the genre.

(Rick Teverbaugh)

SLAMBALL

Designed by Stephen C. Biggs
Synapse Software/Commodore 64/Disk

This one- or two-player contest is a pretty big step away from conventional video pinball. With its playfield composed of four vertically adjacent screens and the high degree of ball control, **Slamball** emerges as a cross between a flipper game and a strategy program.

The player gets three or five balls with which all the solid targets scattered around the playfield must be hit at least once (to turn them into hollow targets). Although the same banks of targets can be cleared again and again for points, the only way to ascend to the next highest level is to wipe the board clean of the solid targets. An information line monitors the number of targets remaining.

Moving the joystick left, right or down without depressing the action button activates, respectively, the left-side, right-side or all the flippers. Pushing the stick to the left or right while holding down the button causes a horizontal jostle which can greatly speed up the flight of the ball.

The graphics are fairly simple, but Biggs has done something exceedingly clever by personifying the traditional silver ball as Mr. Slamball. He looks a little like a smile button, but this doesn't stop him from ricocheting around the playfield to rack up points by colliding with bumpers and thumpers as well as the previously mentioned drop targets. Hitting a whole bank of targets releases floating bumpers. Hitting one such object cycles the bonus multiplier from one to four and back again in increments of one. That means, when you've got the game sailing along a 4X, the last thing you want to do is take out one of those floating bumpers, which resets things to 1X.

Slamball is more than just pinball, it's videogaming action at its most intriguing.

(Arnie Katz)

BUZZARD BAIT

Sirius/Apple II/48K disk

It won't make the neighbors forget about the heroic message from Paul Revere, but maybe they also won't call for the men in the white suits should they see you running down the street yelling, "The buzzards are coming! The buzzards are coming!"

If any of your friends do decide that you really have gone that one step

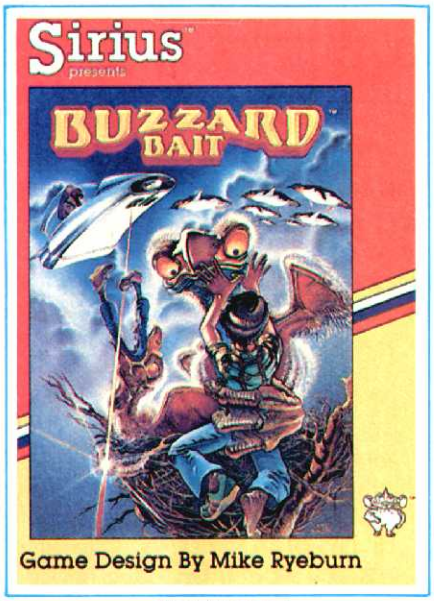
over the edge, blame Mike Ryeburn and his highly entertaining offering, **Buzzard Bait**.

In this scenario, some very affectionate buzzards have gotten together in nests high above the ground. Baby buzzards were the end result. Now these little birds are hungry. What they crave is people. Any humans unfortunate enough to be walking around in that vicinity will be plucked up and fed to these youngsters like a sack of hamburgers from the local drive-in.

To quote the box copy of this program, "Last year those birds had a feast and we had to change the population sign."

Using keyboard, paddle, Apple joystick or Atari joystick, the gamer must keep the babies hungry, and the people as healthy as possible.

Equipped with a hovercraft and an endless supply of ammunition, the gamer shoots the parent buzzards out of the sky before they can pounce on any of the people. Should one of the



BUZZARD BAIT

birds snatch a human, it can still be shot down before dropping off the food, but the human must then be caught as he drops back to earth. Shooting an orange bird is worth 100 points, while a blue bird scores 50 and a baby bird, 300. Catching a falling human is worth 100 points.

Bonus ships are earned by successfully completing the collecting of three parts of that ship during the bonus ship round. When using the joystick controls, button #0 will cause the ship to fire, while button #1 will cause the ship to lift off into a hover position for as long as the button is depressed. Side-to-side movement of the joystick controls the horizontal movement of the craft.

Buzzard Bait is a challenging diversion, even if the mechanics of the game system are off-the-shelf invasion games. Graphics are clean and fluid.

When someone hollers to look up in the sky, if the first guess is it's a bird and the second guess is a buzzard instead of a plane, don't wait for Superman. Instead, hop into the nearest hovercraft and try to keep your loved ones from becoming Buzzard Bait.

(Rick Teverbaugh)

GAME-A-THON

ROBOTRON: 2084

Atari/Atari computers/Cartridge

This edition of Williams' **Robotron: 2084** is a virtually flawless arcade-to-home translation. The graphics are crisp and remarkably faithful to the original, the sound is multilayered and aptly machine-like, and the play-action's fast, furious, and just plain fantastic.

Robotron traditionalists can enjoy the arcade versions's unique two-joystick command system by simply plugging in two controllers. (Heavy, lap-style sticks side-by-side are ideal for this option.) Less experienced players can use one joystick to control both movement and firing.

The final episode in Williams' **Defender** trilogy lands players on a barren planet. Defenseless humans run around a clear playfield, pursued by different types of homicidal robots. Blast the droids — except the invulnerable Grunts — and save the people to tally progressively higher bonus points. At higher levels, the evil Brains even turn the humans into dangerous mutants, so players have to be fast to the rescue.

Robotron: 2084 is one of the finest pure action games available for the Atari computer. Fans of the coin-op will be delighted with its arcade-faithful accuracy and adjustable difficulty levels, while home gamers who found the arcade machine too intimidating can now practice in the privacy of their own homes.

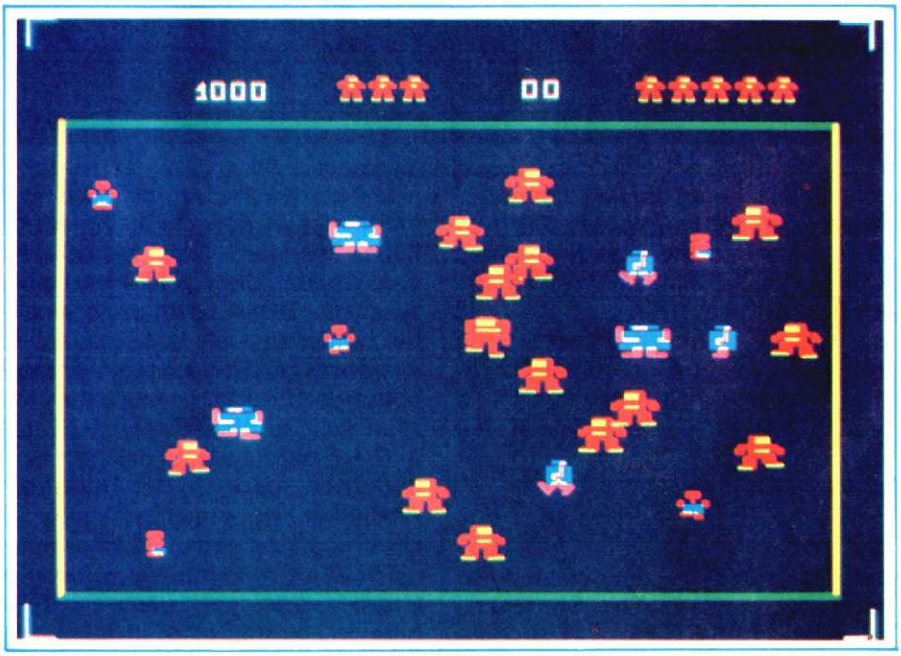
(Tracie Forman)

ALPHA SHIELD

Sirius/Atari/cartridge

The gamer's initial reaction to **Alpha Shield** will probably be, "Wow! A vector game." But after a few minutes of play that elation fizzles out slowly but surely. This is because *Alpha Shield* is a game of disappointments.

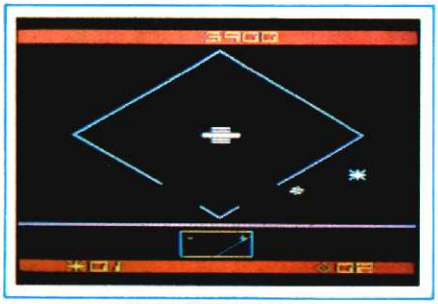
This one-screen, multi-level shoot-out centers on an enemy base with a pulsating energy field. The gamer must destroy the base within the field



ROBOTRON (ATARI)

before being destroyed by one of the five Alpherion defenders. Because the force field absorbs energy, the player must either shoot at the base through one of the openings in the shield, or go through it and shoot from within. If successful, the gamer goes on to another base.

In the upper levels, the bases form more than one shield. Also, each of the defenders has its own peculiarities. But, the game doesn't offer enough



ALPHA SHIELD (SIRIUS)

variety to be much of a challenge. It seems as though the designer did the bare minimum. Take, for instance, the line drawings; they may look like vector graphics at first glance, but they aren't. Even if it were possible, why would anyone want to use vectors for one of the industry's most graphics-oriented computers?

Alpha Shield may keep a real novice computerist occupied for a while, but almost no one else.

(Vincent Puglia)

BEAT THE BEATLES

Interactive Software/
Atari/48K disk or cassette

Think you know everything there is to know about the Fab Four? **Beat the Beatles** is an all-text trivia game that tests Beatlemaniacs' knowledge of names, places, music and lyrics associated with the famous Liverpool foursome, and it's not a game for dabblers.

The game is extremely straightforward. After selecting a category, the player types in answers to the computer's questions. Points are awarded for each correct question, while requesting a clue loses points. The game ends when the player answers 100 questions correctly *and* has a score of at least 10,000, or when 33 questions have been answered wrong.

Beat the Beatles is an exercise in no-frills gaming. There are no audio-visual rewards for correct answers, and players aren't told the answers to any questions. Ever. In addition, the clues can be extremely vague, especially in the music & lyrics section of the game, where the entire clue might consist of one word.

Rabid Beatles fans will probably be thrilled to have a forum for showing off all those little-known facts about their favorite group, but the mainstream gamer could very well find *Beat the Beatles* too difficult to ever beat.

(Tracie Forman)

PIT STOP

Epyx/Commodore 64/Cartridge

This driving contest has a few new curves — hairpin and switchback, to name two.

Actually, the main difference between this gas-guzzler and other races is the need for cars to pull into the pits to refuel and replace worn tires. Collisions with other cars, usually two on-screen per time, and track edges, as well as miles run, reduce the amount of tread. Color-coded slicks indicate status.

Armchair Andrettis have to individually control the pit crew in a race against time as the other cars whizz relentlessly by in the background.

For up to four players, this six-track, three-difficulty-level contest is an enduring challenge. The engine rev sounds are realistic, the pit screen unforgettable, and the action absolutely hair-raising.

(Ted Salamone)

PIT STOP (EPYX)

CROSSFIRE

Sierra On-Line/IBM PCjr/Cartridge

Crossfire is an interesting variant on the arcade classic, **Targ.** Players move a shooter through a grid comprised of rows of square blocks, battling an army of creatures who dwell on the perimeter of the grid. These creatures do not die when shot, however, but rather go through a three-phase metamorphosis after each "kill", only disappearing after the third hit.

The number of shots the arcader is granted is finite, and new ammunition appears in an assortment of locations. These stockpiles must be reached by the shooter in order for it to be reloaded.

This IBM PCjr version of the perennial favorite is a virtual clone of the earlier Atari edition. A worthwhile addition to the burgeoning PCjr library.

(Bill Kunkel)

ROOTIN' TOOTIN'

Programmed by Bryce C. Nesbitt
HesWare/Commodore 64/Cartridge

Coming along at the end of the great maze-chase craze, Data East's **Rootin' Tootin'** never amassed more than a cult following in the arcades. This one-or two-player home edition gives computerists the chance to catch up with a program that qualifies as a genuine overlooked classic.

Picking up notes for points on a maze composed of musical staffs is the main play-action in *Rootin' Tootin'* Creatures based on musical instruments roam the playfields — there are four mazes — and try to use up one of your tuba's four lives by touching it. Pushing the action button gives the tuba a few seconds' worth of invisibility, indicated by the tuba turning blue, but it's not wise to count too heavily on this tactic. The tuba has a much

deadlier weapon in its own sonic blast. If any of the notes which are blown off the staff (for 20 points each) strikes a hostile instrument, it is immediately destroyed. Picking up one of the 1/8th rests which pop up periodically turns most of the enemy instruments into G-clefts, which the tuba can blow away for extra score. An "extra life" symbol, activated in the same way as the musical rest, entitles the player to an additional tuba.

Some of the instruments merely follow the path of the tuba, but others have deadlier means for dealing with the note-blaster. The Triens, for instance, drop stars which can kill a tuba on contact, while the Pianhas have the ability to move without regard to the confines of the staffs.

Rootin' Tootin' hits a gaming high note.

(Arnie Katz)

BLUEPRINT

Commodore/Commodore 64/Cartridge

In **Blueprint,** the gamer takes the role of J.J., whose girlfriend is being chased across the top of the screen by an amorous ogre. If J.J. takes too much time, the monster eventually catches the damsel, and the computerist loses a turn. The hero is trapped in a village filled with houses, and he must use the blueprint at the bottom of the screen to build a weapon to foil the ogre.

To collect the necessary machinery, J.J. has to enter each house. Most of the dwellings contain parts which must be placed over corresponding sections of the blueprint to form the actual weapon. A few houses — and all those which have been previously entered — contain bombs, which the player must drop into a bomb chute to get rid of.

The ogre periodically tosses flower pots at the hero, and these pernicious pansies come to life and menace J.J. Touching one is lethal. Also, there's a monster that tries to dismantle the partially-completed ogre-blaster. Get rid of it by dropping it down the monster chute. A more lethal creature patrols the village in later levels.

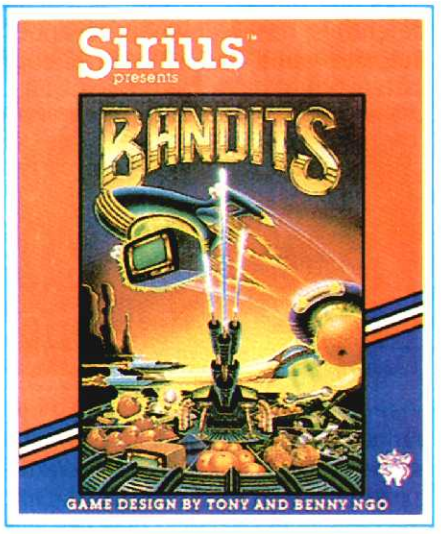
Blueprint is a low-key, enjoyable game, set off by good graphics and sound. The action is moderately paced, with more emphasis on strategy than on a quick trigger finger.

(Tracie Forman)

BANDITS

Designed by Tony and Benny Ngo
Sirius/VIC-20/Cartridge

A natural outgrowth of the invasion theme, **Bandits** resembles **Galaxian** at first glance. Phalanxes, winged insect-like aliens, swoop down, spraying death along their way to the storehouse at the lower left of the screen. As the game progresses, however, more bandits appear: small, but deadly Menaces, which pulsate in and out of existence; cross-shaped Carriers which break up into balloon-like Nuisants; and centipede-like Torrents. Eventually, all of the bandits are on-screen at the same time.



If one or more of the bandits manages to steal some of the supplies (and they will), the gamer can still recover the loot by shooting the aliens down as they cross the screen. When the going get rough, the player's ship can even be shielded for short intervals of time.

If nothing else, *Bandits* has superlative graphics. (I had to check to make sure I was playing with the VIC and not the Atari.) Luckily though, *Bandits* is more than a good-looking game; it's also a fun-playing one.

(Vincent Puglia)

ARTICLES OF WAR

EAGLES

Strategic Simulations Inc./
Apple II, Atari/48K disk

No Man's Land, a hundred and fifty feet below my Sopwith Pup, was a pockmarked pattern of grayish mud sliced by the enemy trenches. A small puff to smoke signalled some Hun infantryman's almost laughable attempt to take me out. I waved; don't know if he returned the salute.

Above me was at least one more enemy, the bright summer sun. I pulled the Pup into a tight climb, gaining altitude so that a German diving from the sun, hidden in the brightness, would have less of an advantage. We were heading toward the Allied trenches, me and Carl in his own bullet-

holed Pup a hundred yards to the east.

Carl pointed up. I caught the glint of sun on the fabric of what looked to be a Fokker DR1 diving at us, its gun making that odd chattering sound which always seemed somehow unreal. I banked quickly, as tight as I could just in time to see Carl's Pup fold back its wings and go down trailing smoky fire.

The Fokker, below me now, tried to slip to the right but I was on him and I knew the advantage would be mine for one quick burst. Would my gun jam? I aimed. . . .

For anyone who has ever hearkened to hear the stories of the superhuman fliers, the air aces of the First World War, this new game of **Eagles** will prove a most rewarding simulation. While its play mechanics can be mastered in less than an hour, the tactical maneuvering of plane against plane will keep any computer gamer's interest at a high (no pun intended) pitch.

German and Allied planes from all periods of the war, as well as special two-seater planes and even anti-aircraft artillery balloons, are well represented in this game. The various scenarios can involve up to ten fighter aircraft per side. Even better, the computer can pilot any of the planes involved on either side. Here's a computer game which can be played solitaire, two-player or with teams of players.

Players must envision a three-dimensional field of play. Squares of fifty yards on a side run north, south, east and west. There is a third dimension, of altitude, each level of which is 25 feet. Pilots have visible to them, via two video screens, an area of four squares distance.

The main video screen shows an overhead view of the moving (or "phasing") plane's immediate vicinity for two squares about. To the right of this pictorial display is listed the plane's ID number, its altitude, altitude of cloud cover (which may be set at the beginning of play), and a list of what commands the plane will respond to.

Another screen, called by pressing "O" for Overview, details the complete four square area in a text readout. The text will show each sighted plane's altitude as well as how many squares east or west, north or south each plane is from the phasing plane. It also details the individual headings and attitudes of each aircraft.

Commands are given to each plane via the keyboard. These commands allow the player to move a phasing plane forward one square, try for two squares, make 90 degree left and right turns, make wider right and left banks, try to quickly slip left or right, climb and dive into loops, maneuver in wild defense, and change altitude. Any pilot new to all this would be well advised to first tackle a two-plane game before getting involved in multiple fighter melees.

Some of the commands, such as the banking and looping commands, extend over two movement phases. So, it is important to not only envision what your own plane will be doing but what the enemy aircraft will have done in the meantime.

Many maneuvers are accurate simulations of the type of dogfighting techniques which were used by airmen — whose average combat lifetime was around three weeks. The climbing half-loop, for example, must be mastered. A two-phase maneuver is the quickest way to turn 180 degrees — but watch out that you don't stall.

Once you've maneuvered your way to within the same square as your enemy, have him lined up horizontally, and are no more than 100 feet above or below him (if flying level, 200 above if diving, 200 below if climbing), you can fire short, medium or long bursts with your guns. Results may be anything from missing the target to being informed that you have downed your foe. Many of the possible hits, such as wing strut damage, will adversely affect the enemy's performance next round.

Besides the player's piloting ability, other variables will affect the outcome of a flying circus dogfight. Obviously, different planes will have different capabilities. A Nieuport 17 would have a hard time facing a Fokker DVII. The Nieuport's maneuver percentage is 60 as is the Fokker's; but its maneuever capability is rated at 50 as opposed to the Fokker's rating of 80. The Fokker can dive better and has a higher structural integrity. So, a pilot must know his plane and the charts.

Each pilot in the game, whether run by a human or the computer, is rated as to his combat experience. From novice to super-ace, each class of pilot will have a different amount of surety in controlling his craft.

Many scenarios may be constructed by the player to be played either solitaire or with human opponent(s) thanks to the most complete player set-up routines in the program, detailed in the rulebook. Some scenarios are completely spelled out in the rulebook and detail what type of aircraft are involved on each side, cloud cover, location of battle in relation to the German and Allied lines, as well as the exact position, heading and altitude of each fighter plane involved. We particularly enjoy playing out the included scenario #2 "Voss's Last Flight." Controlling super-ace Voss as

he is outnumbered by computer-run craft is bound to convince you that your computer is really thinking. These aren't drones coming against you, they're uncannily tactical enemy pilots.

Other methods of play involve less historical setups. You can choose the number of planes per side and the type of mission being flown. You can either set up the positions yourself or have the computer place the fighters randomly (but in formation and near enough for combat to quickly commence).

There is even a method detailed in the manual which will allow for a long campaign game. In the compaign game, loosely based on Jack D. Hunter's book "The Blue Max," each year of the war is covered in two games, eight games being played in all. The overall performance of each human pilot is rated and successive games are influenced by earned ratings. As you down enemy craft you rise in rank and get better aircraft. You can even extend the campaign game with some included "mini-games" which simulate various smaller missions during the war.

Playing *Eagles* calls for a good grasp of three dimensionality. I found that the overhead screen could have been enhanced by having some indication onscreen as to which plane is being moved. A few times I managed to move the wrong craft, of the half dozen onscreen I was inputting orders to what turned out to be the wrong plane! While you can usually switch to the text screen and then figure which plane is having its orders entered, I thought this interfered with the simulation as, after all, in real life a pilot seldom will forget which plane he is in. Perhaps a later version could be enhanced by the plane having its orders cut blinking on and off.

But the actual maneuvering of the craft is pretty smooth and easy to learn. We found the tactics detailed in the manual added quite a bit to the enjoyment of the game — as does the manual's rip-roaring overview of the period being simulated.

If you have ever wanted to lose yourself in a game for a few days, but still have it be simple enough to explain to a gaming friend in a few minutes, then you will enjoy *Eagles*. It's a natural for both solitaire fun and playing at your next keyboard party.

Rickerbacker, Voss, Richtofen — maybe even Snoopy — your comrades await you in the sky!

(Neil Shapiro)

PASSPORT TO ADVENTURE

ULTIMA II

Designed by Lord British
Sierra On-Line/Commodore 64/Disk

Though the name **Ultima II: Revenge of the Enchantress** is somewhat reminiscent of a 1950's B movie, this multi-disk epic is actually a first-rate adventure game for the Commodore 64. (Editions are also available for Apple, Atari, and IBM-PC computers.) Computer gamers are transformed into time-travelling, continent-spanning beings endowed with specific goals, characteristics, and needs.

To begin with, the player creates a character that will be used in the quest to seek out — and defeat — the evil sorceress Minax. In a manner similar to the non-electronic Dungeons & Dragons, players allot a given number of points to various attributes like agility, strength, charisma, wisdom, stamina, and intelligence. The player chooses to assume a particular race (human, dwarf, elf or hobbit), gender (male, female, or other) and occupation (wizard, thief, cleric, or fighter). Each choice enhances a certain attribute (fighters are particularly strong, for example), and a judicious strategist can produce a formidable alter ego.

A pub/pizza parlor in *Ultima II*

The character starts the game without weapons or armor in a hostile wilderness. To buy essentials like armor or food, the player must first visit a town or village, where a little common sense (and a few extra coins for the barkeepers) can unearth important information.

Through a time door in *Ultima II*

Unlike other adventure games, players neither press the joystick nor type in commands to input information. Four buttons on the keyboard are pushed to actually move the character, while every other key has been assigned a specific function. For example, "A" stands for "attack", while "J" stands for "jump". It takes a little getting used to, but an adventure as challenging and rich as this one is worth a little memorizing.

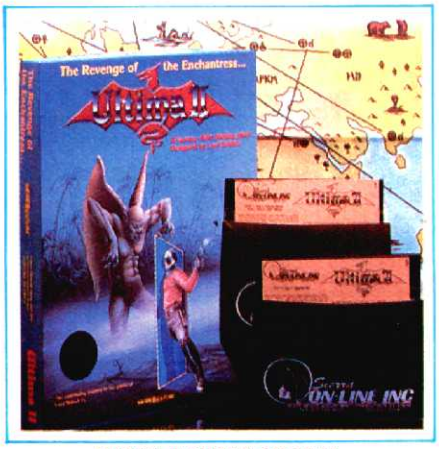
Gold is vital, to pay for information, equipment, or even burgers at the local Macdonalls. A combat victory usually increases a character's experience rating, as well as his/her purse size! Cash and other items are also found in castles, towers and dungeons which populate this well-planned universe. Seek and ye shall find! But don't run out of food or hit points (the amount of damage a character can sustain — it's generally fatal but fortunately, a character can be reincarnated and reinstated with all belongings intact by re-booting the master disk. Who says only cats have nine lives?

Just about anyone (or anything) can be encountered, from musicians and software house VP's to the Hotel California. Despite the never-ending combat, difficult terrain, and expansive oceans, *Ultima II* has a definite sense

of humor! But don't laugh too long — evil creatures such as balrons, devils, and daemons abound. Horses, ships, planes, and even rockets can be found in the *Ultima II* universe as well, though the proper combination of money, keys, and equipment is needed to make use of them.

Magic plays an important role in this fantasy. Spells can be purchased at the proper shops, and using them might pave the way for extended life and ultimate success.

A beautifully designed parchment-like manual/storybook and a cloth map of the world make the adventure



ULTIMA II (SIERRA ON-LINE)

even more believable. A map of the known solar system is included to aid in interstellar exploration.

Ultima II is mindboggling, because it combines graphics, real-time action, and a plausable adventure theme with space and time travel. About the only thing missing is the kitchen sink, and even that might be included somewhere! The entire game is brilliantly conceived, gorgeously executed, and unquestionably absorbing. Playing it properly requires a commitment only *slightly* less than that needed to win Olympic gold, though the game's depth, challenge, and constant surprises makes it worth the effort.

(Ted Salamone)

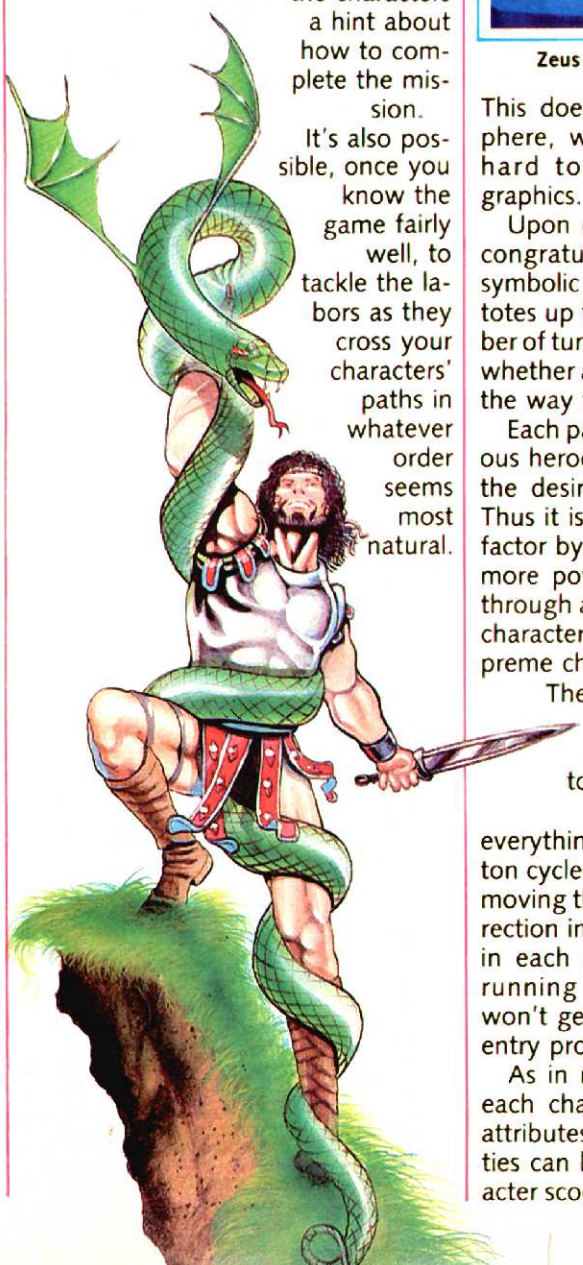
RETURN OF HERACLES

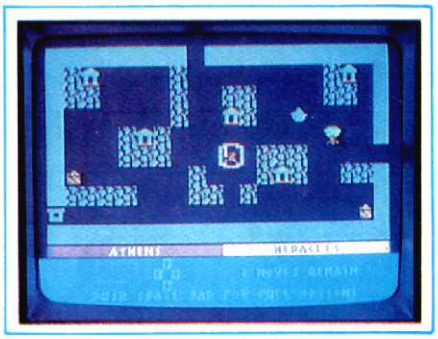
Designed by Stuart Smith
Quality Software/
Atari computers/48K disk

The ancient Greek world of myth and legend is the setting for this delightful action-adventure by the creator of 1982's **Ali Baba.** Smith has evidently further honed his already considerable talent, because his latest effort surpasses the game from which it has borrowed many of its play-mechanics.

The major change is that movement in **Return of Heracles** doesn't take place in real time. That is, nothing happens until one of the on-screen characters does something. This makes the game less immediate, but it also produces a more orderly routine of play, especially when more than one home arcader is participating.

Up to four humans control one or more on-screen characters as they move on a multi-screen map of the area and try to perform the legendary Twelve Labors of Heracles. Playing "by the book" requires a character to stop at the Oracle of Zeus, where the greatest of the Greek gods will assign one of the tasks. A heavy donation at the Oracle of Delphi will gain the characters a hint about how to complete the mission. It's also possible, once you know the game fairly well, to tackle the labors as they cross your characters' paths in whatever order seems most natural.





The city of Athens awaits.

ZEUS IS PLEASED THAT YOU HAVE
COMPLETED 12 OF HIS 12 TASKS.
THIS ONE WAS WORTH 100 POINTS.
DOING IT IN 71 TURNS EARNS
A BONUS OF 129. LOSING NO
PLAYERS EARNS 200 POINTS.
YOUR CURRENT SCORE IS 7754.
A PARSLEY GARLAND
IS YOUR REWARD."
press space bar to continue

Zeus evaluates players' progress.

This does dilute the game's atmosphere, which Smith has worked so hard to create with sound and graphics.

Upon completion of a labor, Zeus congratulates the victor, bestows a symbolic token of achievement and totes up the score based on the number of turns it took to finish the job and whether any characters bit the dust on the way to the triumph.

Each participant can control numerous heroes and heroines by choosing the desired names from the roster. Thus it is easy to adjust the difficulty factor by giving novices more — and more powerful — minions. Running through all twelve labors with a single character would, of course, be the supreme challenge.

The command control system is miraculous. When an on-screen prompt says it's time to manipulate a given hero or heroine, the player does everything with the joystick. The button cycles among sets of options, and moving the stick in the appropriate direction inputs one of the four choices in each set. Even a solitaire player running every available character won't get bogged down in the order entry process.

As in most role-playing programs, each character has a specific set of attributes and equipment. Native abilities can be improved, once the character scoops up enough drachmae, by

Achilles in a "city" (left) and the map screen (right) from *Return of Haracles.* **Apple and Commodore versions shown.**

buying training. Arms and armor can also be purchased at many locations. This is fortunate, since shoddily-made gear frequently breaks in combat, leaving the character to battle with dagger or even bare hands until he or she can buy a replacement. Those who want an extra edge in the frequent swordfights which form the main action of *Return of Heracles* can get their blades dipped in poison — naturally, for a price.

Return of Heracles includes a lot of educational information about Greek myth, and almost every player will know more about this subject after booting the disk a few times. This is not, however, an educational game *per se*, and no factual knowledge is required to have a rousing good time.

Sound the trumpets, pass out the victory laurels — Stuart Smith is back, and he's better than ever!

(Arnie Katz)

THINK TANK

DRAGONRIDERS OF PERN

Epyx/Commodore 64/Disk

Welcome to the world of Pern. Epyx has taken the underlying theme from Anne McCaffrey's best-selling fantasy novels and turned the mythos into a game that combines cutthroat strategy and unusual play-action. Each player takes charge of a Weyr (stronghold) of dragons and its riders, and must then jockey for political power and social status against rival Weyrs.

During the first phase of a game, Weyrleaders negotiate with powerful Lord Holders (the rulers of Pern's city-states), and Craft Masters for support. Depending on the personalities of the individuals, an invitation to a wedding or a dragon hatching can improve relations with undecided allies. The end result is to form alliances with strongholds (2 points per ally) or craft halls (1 point each). Alliances can be formed or broken at any time, and it's a shrewd Weyrleader who can rally and sustain the 20 points worth of alliances needed to win the game.

The latter part of the contest is an action sequence, during which the Weyrleader and his or her dragons take to the skies to battle deadly falling Thread spores. If a Thread touches the ground, it permanently damages part of the planet's landscape — and often alienates the Lord Holder who rules the region. Thread is also deadly to dragons, and if one is touched, the creature must quickly jump "between" (a sort of fantasy hyperspace) to cool the dangerous burn.

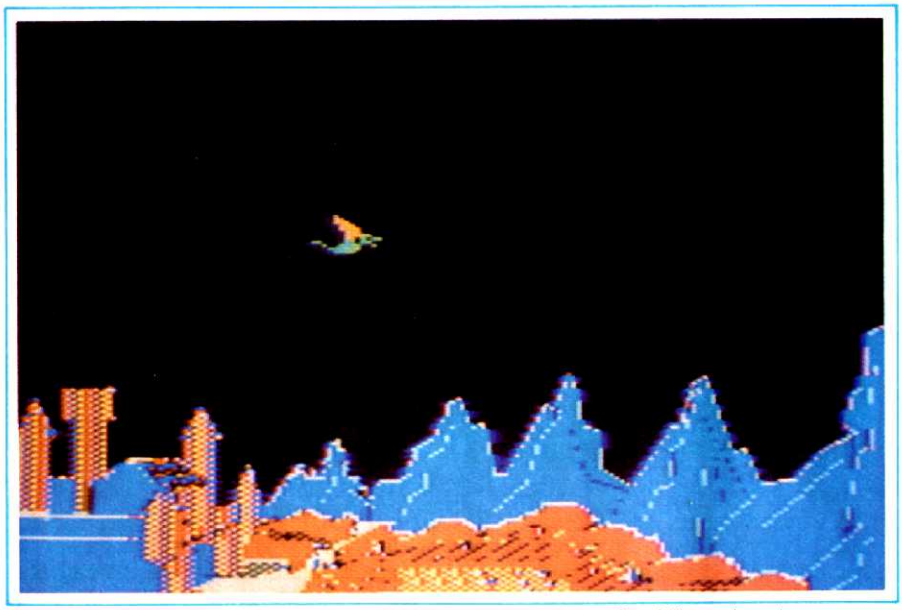
Dragonriders of Pern is true to the novels on which its based. And though it can be a bit tiresome at times, there's enough meat there to keep players wanting more. The contest can take hours to complete, so a save-game option has been included. To defeat crafty players, the computer ends a game plus or minus two Turns (years) from the selected number, and it's even possible to play all-strategy or all-action versions.

Map screen from *Dragonriders of Pern* **shows areas endangered by Threadfall.**

During the battle sequence, the musical theme is extravagant and graphics are breathtaking. In the strategy phase, most of the action is described in words.

All in all, *Dragonriders of Pern* is a challenging, thought-provoking game that allows multiple players to compete head-to-head. Though little but the Thread-fighting sequence will appeal to hard-core action gamers, the Machiavellian computer gamer will find plenty here to sink his teeth into. Epyx deserves congratulations for capturing so much of the novels' essence.

(Ted Salamone)



In *Dragonriders of Pern's* **action sequence, players char falling Thread.**

TRAINS

Designed by Interactive Picture Systems, Inc.
Spinnaker/Atari/48K disk

More than anything, **Trains** recalls an extravagant Lionel model lay-out, complete with whistle, mountains, trees and houses. About the only thing missing is the Christmas tree around which the train should run.

The gamer becomes a railroading magnate at the turn of the century. In each of the eight levels, the object is meet the schedule, make money, and expand into new territories. Throughout all of this, the empire builder must have enough money to cover the payroll, the expense of coal, and any damage if the train should crash at a dead end.

Meeting the schedule involves loading the various products (there are four: oil, ore, produce and lumber) into the appropriate freight cars and bringing them to their respective unloading docks. For example, the lumber would be brought to the sawmill, the oil to the refinery. Each time the gamer manages to deplete the loading area of its goods or completely satisfy the customer's orders, a new section of track is built. Eventually, this new spur is attached to the main line and a message appears telling the gamer that it's OK to go on to the next town.

Although it may sound easy enough, there are enough features to prevent the game from being easily mastered. To begin with, the number and type of resource and goal sites change from territory to territory. For example, in Winnemuga (the first level) there are two oil wells and two refineries. In Colorado Springs (the eighth level) there is only one oil well (and one lumber camp and one farm and one mine). The gamer cannot ignore any of the stations. If he or she does, a message is printed saying that there is a surplus of goods or a need for them. If the player supplies the customer within a certain amount of time, a higher price is paid for the goods. However, when the demand isn't met on time, a work stoppage occurs.

Keeping up with demand in *Trains*

For those gamers who are serious about their railroading, there's a space bar feature. By pressing the bar, the gamer is able to view a graph that shows which sites are undersupplied and which have a surplus. (For beginners, pressing the "L" key will display a legend of the various sites.)

The gamer has other problems to surmount as well. Occasionally, clouds pass over the area and obscure the view of the station. Also, if the coal supply runs out, the player receives a special delivery—but it costs twice as much. Oh yes, if you run out of money, it won't be long before a bankruptcy ends the game.

As far as strategy goes, the gamer should try to find the shortest route between his stations. Even better: Deplete one of the resource centers and keep it depleted. If everything else is OK, stay at that station and empty it every so often. In this way, the building of the spur will move along faster. Also, if cash is low, return to one of the lower levels where it's easier to make money. Remember the train can go backwards, so sometimes it's better to use a track that bypasses a depot.

Perhaps the only real drawback in the program, and it's minor, is the inordinate amount of time it takes to boot and search through the disks for the next territories. (Is it really necessary to have two "Going to (area)" screens after each level?)

(Vincent Puglia)

MILLIONAIRE

Blue Chip Software/C-64/Disk

So you think you've got the stuff to become a Wizard of Wall Street, eh? Before you empty that bank account, better try a few games of **Millionaire.** And even if the only market in your life sells groceries, this detailed stock simulation is good for untold hours of fun.

Each turn in this solitaire contest equals one week of real-world activity. Action begins in week #14 to establish performance trends for the 15 companies whose securities may be traded in *Millionaire.* The speculator must try to pyramid the starting $10,000 stake into a cool million by the end of week #91.

Numerous charts and graphs help the computerist track holdings and plan transactions. One set of graphs

WHAT WOULD YOU DO IF YOU

You're headed deep into the jungle. The treasure's there. You know it. But between you and a king's ransom in gold lie tarpits and quicksand and creatures that do not like visitors. Stumbling, running, dodging, you must push on. Past scorpions, logs and crocodiles. Toward your goal. And the only way to get there is through a vast...unknown. The gold is appealing...but the chance for adventure, that's the real reason to go. Designed by David Crane.

Available for your:
- Commodore 64
- ColecoVision, Adam
- Atari home computers
- Atari 5200
- Atari 2600

As you suit up you see the webbed forcefield surrounding your planet. Holding it. Trapped with no escape. No hope. Except you: The Beamrider. The freedom of millions depends on you. Alone you speed along the grid of beams that strangle your planet. Alone you must destroy it sector by sector. Your skill and your reflexes alone will determine the future of your people. Take their future in your hands. Designed by Dave Rolfe.

Available for your:
- Commodore 64
- ColecoVision, Adam
- Atari home computers
- Atari 5200
- Atari 2600

You made it. The Olympics. You hear languages you've never heard. And the universal roar of the crowd. You will run. Hurl. Vault. Jump. Ten grueling events. One chance. You will push yourself this time. Further than ever. Harder than ever. But then...so will everyone. The starting gun sounds. A blur of adrenaline. The competition increases, now two can compete on screen at the same time. Let the games begin. Designed by David Crane.

Available for your:
- Commodore 64
- ColecoVision, Adam
- Atari home computers
- Atari 5200
- Atari 2600 (1-4 players alternate)

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WERE IN THEIR SHOES?

You've put on your badge, grabbed your nightstick and headed out. But what's going on in that department store? A good old-fashioned chase that's what. You've got to catch the greedy little burglar who keeps throwing beachballs, toy airplanes and shopping carts in your path. Up the escalators. Down the elevators. From floor to floor. There's something funny going on here. Take charge of the investigation, lieutenant. Designed by Garry Kitchen.

Available for your:
- ColecoVision, Adam
- Atari home computers
- Atari 5200
- Atari 2600

You have heard the elder speak of one central source and a maze of unconnected grey paths. As you connect each path to the central source, what was grey becomes the green of life. When all are connected, then you have achieved "Zenji." But beware the flames and sparks of distraction that move along the paths. You must go beyond strategy, speed, logic. Trust your intuition. Meet the ancient challenge. Designed by Matthew Hubbard.

Available for your:
- Commodore 64
- ColecoVision, Adam
- Atari home computers
- Atari 5200

You prepare for what may be your last take-off. Negotiations have failed. The Dreadnaught moves in. You must attack. No single hit will stop it, you must destroy individual energy vents, individual engines. Approach. Attack. Swerve away. Again and again. An evil enemy inhabits the massive Dreadnaught. And you alone, a small speck in the vastness of space, fly out to meet it. Get on board, your ship is ready to leave, sir. Designed by Tom Loughry.

Available for your:
- Atari home computers
- Atari 5200

ACTIVISION®

We put you in the game.

shows stock price history for each individual issue, another group indicates movement for the five stock groups into which the program divides the 15 tradeable companies, and a summary graph records the entire market's weekly ups and downs. Charts give stock and option prices, the contents of the player's portfolio, and more. A weekly newswire gives the investor some hot stories, most of which affect the performance of one or more issues. The player accesses all this data

by typing in the appropriate one-word command gleaned from the on-screen menu.

Although *Millionaire* can save more than a dozen games-in-progress to disk, it's strictly a lone investor versus the market. The program initializes a fresh "universe" for each game, and only one investor per game is allowed. Many players will want to use the "save" feature to divide each game into a series of multi-week sessions instead of running through it in a single marathon sitting.

Ornate graphics would be a meaningless frill in a game of this type, but Blue Chip's designers might've taken more care with the various displays. The graphs, in particular, are somewhat primitive, and some may find them hard to interpret because of this.

Millionaire gives the gamer a lot of balls to juggle, but its construction makes it surprisingly simple to learn. Since the player's net worth governs what types of trades he or she can make, the simulation is fairly straightforward at the start and only grows more complicated when hefty profits make it clear that the player is ready to take on wider responsibilities.

Though not exactly a "beer and skittles" classic good for a half-hour of laughs, *Millionaire* is a well-tuned simulation that handsomely repays the home gamer's investment in time and effort.

(Arnie Katz)

ELECTRONIC PRESSBOX

COMPUTER FOOTBALL STRATEGY

Avalon Hill/Atari computer/32K cassette

It's that holiest of holy holidays — Super Bowl Sunday — and as usual the followers of the gridiron have been sitting in their pressbox from the moment the table was cleared.

Despite the three interceptions Theisman threw, the two fumbles Riggins lost and the seventy-five yards of penalties the team accumulated, the Washington Redskins are still ahead by 20 points. But it is the fourth quarter, and as everyone knows, the Cowboys love to play catch-up football.

It's first and ten on the Dallas 20. Roger Staubach takes the snap, goes into the pocket, and fires one down the middle to his wide receiver. Hayes makes a tremendous catch between three defenders. He shakes one tackle, fakes out the free safety and races down the field for 44 yards and a touchdown. Five minutes later, Staubach does it again; only this time, it's a pass to his tight end, Ditka. Now the Cowboys only trail the Redskins by six. . .

Okay. So Roger Staubach and Joe Theisman never could have played in a Super Bowl against each other. They starred in the same conference, and eleven years separated the time Dallas beat Miami in Super Bowl VI and the Redskins had their victory over the Dolphins in Super Bowl XVII. But reality never stops people from speculating about what might have been. Thanks to Avalon Hill and designer George A. Schwenk, computer gamers can now find out what could have happened.

Essentially, **Computer Football Strategy** is a game of nostalgia and planning. Its premise is simple: Take 18 all-time great teams — from the 1982 Washington Redskins to the immortal 1966 Green Bay Packers — and see how they would have played against each other. (Only one team on the roster, the 1981 New York Giants, was not a Super Bowl contender.) Then give the computerist a choice of 21 offensive and 11 defensive plays. Just to keep the game interesting, add some penalties, sacks, interceptions and fumbles. Oh yes, include a timer so that the gamer-coach can't spend too much time deciding which play to run. If he has to, let him use a timeout.

There are two basic screens in *Football Strategy:* one for play selection and another for play animation. At best, the latter screen is crude, but effective. No more than three huge blocky figures are on the display at any given time, but it's effective because the end result of the play is what really matters.

The play selection screen, on the other hand, is truly a marvel to behold. The entire team lines up according to the play chosen; that is, a gamer can actually see the difference in formations between a safety blitz and nickel defense, or between a long pass to the wide receiver and a short pass to the tight end.

In addition to that, the game is user-friendly. Once the coin has been tossed and the kickoff returned, all major input is via the joystick. This includes taking a time out, selecting a play and deciding whether to accept or decline a penalty. (Sure, it's easy enough to tell Don Schula to accept a penalty, but he's not coaching the team, you are.) There's even a feature to allow the gamer to set a two-minute warning. In fact, about the only real criticism that can be made of *Football Strategy* is that the extra points and kickoffs happen off-screen.

(Vincent Puglia)

FORMULA 1 RACER

Gentry/Apple II/48K Disk

Maybe you won't smell the grease-pit or hear the roar of the crowd, but **Formula 1 Racer** by Chris Eisnaugle is guaranteed to produce sweaty palms and shifting seat postures.

Unlike the excellent **International Gran Prix,** *Formula 1 Racer* uses a rather abstract means of keeping track of the racer's overall prowess.

There are three skill settings. At the practice level there are no sharp curves, and no score is tallied. At intermediate there are sharper curves, more cars on the road to be avoided and the disk keeps score. The expert level adds still more cars and more sharp curves.

The human driver must complete a lap within 48 seconds to earn the right to run another one. Each track is 5,100-5,500 simulated feet. The driver scores 10 points for each foot of track covered.

Also unlike *International Gran Prix,* the driver's perspective is from behind the car, with posts running continuously along the road's edge to give the driver a real feeling of flying down the road.

As near as this driver can determine, roads are constructed at random by the computer each time you play, evening things up for novice and experienced gamer in head-to-head competition.

There is no setting for the way the car handles on the road, thus making it impossible to feel any breathtaking skids on the sweeping corners.

FORMULA 1 RACER

Control of the car is handled by joystick. Pushing the stick forward increases the speed, while pulling the joystick back decreases it. Pushing the joystick left or right steers the car.

One button on the joystick upshifts gears, while the second button downshifts. There is a pause game feature to freeze the action during interruptions.

Overall, *Formula 1 Racer* is a solid if limited adaptation of auto racing for the computer, but it is a real steal at the $19.95 list price.

(Rick Teverbaugh)

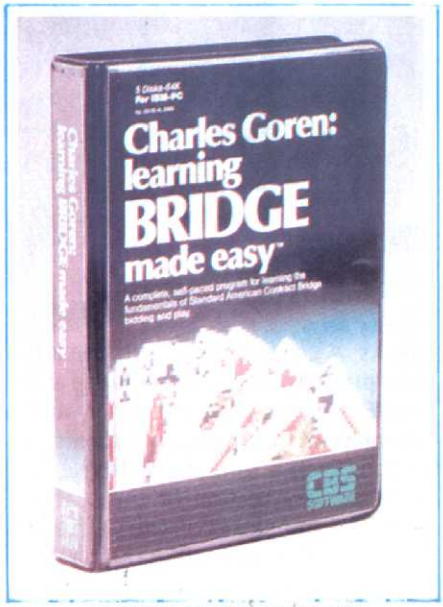
PLAYING IT SMART

CHARLES GOREN: LEARNING BRIDGE MADE EASY

CBS Software/Apple/48K Disk

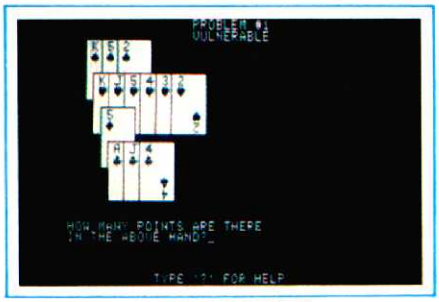
If you've always wanted to learn how to play Bridge, but hesitated to impose your lack of skill on a group of experienced gamers, this is the program for you. CBS Software, with the help of Charles Goren, has put together an instructional program that can help a novice get started or improve the skills of even an expert player.

The first section of the program teaches the art of bidding. There are ten quizzes covering hand evaluation, opening bids, responses and rebids. The computer generates a random hand, then asks the student to solve the problem presented. The gamer has two chances to give the correct response, then the computer provides the answer along with an explanation. For example, in the "Hand Evaluation" section, the gamer learns how to count the possible point total in the hand dealt. "Opening Notrump Bids" guides the user step-by-step through the intricacies of the auction. Each of the ten quizzes, which take the new player through all the steps of bidding, has a help section to prompt the beginner. There are an unlimited number of quizzes in each area, so the learner can work on a section until it's completely absorbed and he or she is ready to go on to the next quiz.



CHARLES GOREN BRIDGE (CBS)

After mastering bidding, the gamer can advance to the play section. It contains 100 hands to provide practice for the fledgling bridger. First the gamer bids the hand, using standard bridge notations, and the computer bids the other three hands. An on-screen pointer selects cards from the player's or his partner's hand, and the computer plays the opponent cards. In this section of the program, the computer automatically corrects wrong bids if an error is made. When playing the hand,



GOREN BRIDGE (CBS)

a wrong play elicits an opportunity try again; make a second error and the computer explains the correct play. If the bridge player enters a poor move, the computer will alert him that there is a better play available, then carry out the superior move. The hands in the play section gradually become more difficult to evaluate and play as they introduce more advanced concepts.

The program presupposes some knowledge of the game, so comes packaged with an easy-to-read player's manual that includes all the instruction the computerist needs to begin.

Bridge is a complicated game that can require many hours to learn, then a lifetime to perfect. **Charles Goren: Learning Bridge Made Easy** makes understanding the game much simpler for a beginner, then provides endless opportunties for the player to hone his skills.

(Joyce Worley)

FRENCH VOCABULARY FOR SHOPPING USE

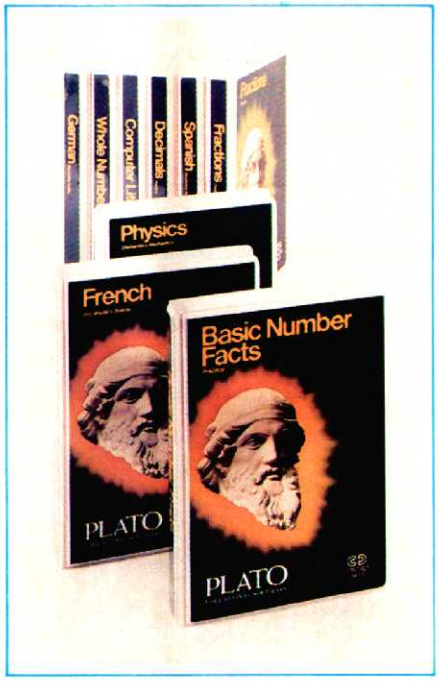
Control Data/Apple/48K Disk

Planning a little trip abroad this year? Let the computer help you prepare for your holiday stroll down les Champs Elysees. When the ladies (or the gents) go to France, shopping is always high on the list of things to do, and Control Data's **French Vocabulary For Shopping Use** is the way to make sure that what you buy is what you want.

The program provides vocabulary drills and practice games using roughly 500 words that come in handy when

shopping in any French-speaking country. The words are divided into nine categories: clothing, personal items, toys and game equipment, tools and outdoor gear, stores and services, furniture, household items, groceries, and general. First the computer displays the words, either in French to English translation, English to French, or a mixture of both. Then the user chooses one of the two games to test the knowledge acquired through studying the list.

The Hangperson game is familiar to most players, and adapts itself perfectly to the drill. The alphabet is displayed at the top of the screen, followed by a blank to be filled in with the correct letters. Below this is the computer generated statement, "I am thinking of a word meaning—." Whether translating French into English or vice versa, the play action is the same. The computerist chooses letters from the alphabet to fill in the



PLATO'S LEARNING SOFTWARE

blanks. A correct guess puts the letter in its proper place(s) in the space at the top. But guess a wrong letter, and a segment of the gallows appears onscreen. Each erroneous response produces a new section of the scaffold, and the gamer loses on the sixth error. A stick figure appears hanging from the gallows; the computer displays the correct answer, and the game proceeds on to the next word.

The second entertainment is the Pyramid Game, a series of twelve multiple-choice translation questions. The computer displays a word, then offers four possible meanings. The first question is worth $2, and each succeeding correct response is valued at double the one before and fills in one level of the pyramid, until the player answers all twelve questions and the pyramid is completely colored. There's even a help option available. If the gamer is stumped, the computer will translate one of the four possible answers, so there are only three left to choose from. But there's a penalty in asking for help, since the value of the question is halved when this option is invoked. The gamer continues answering questions, filling in the pyramid and accumulating prizes unless a wrong response is given. Then the filled-in pyramid blocks all disappear, and the value of the next question drops back to $2.

French Vocabulary For Shopping Use is an excellent accompaniment for formal language instruction. It does not teach pronunciation, and only uses sound as a variety of boops and beeps that serve as auditory rewards during the two games. But it's an excellent supplement to French classes, and perfect as a refresher course to brush up your vocabularly before that holiday shopping spree in Paris!

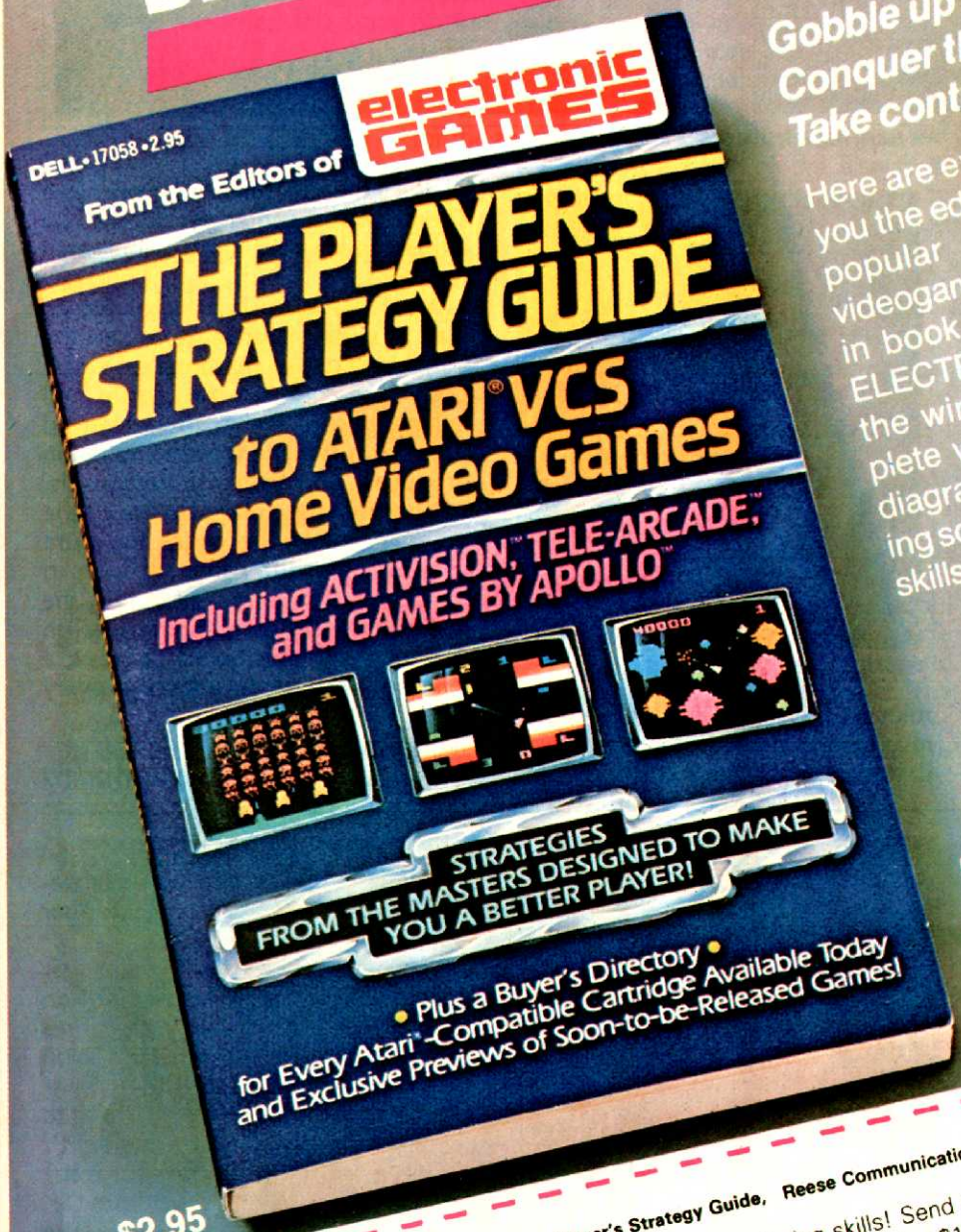
(Joyce Worley)

ALGEBRA ARCADE

Wadsworth Electronic Publishing Co. (WEBCO) Apple/48K Disk

Algebra Arcade challenges one or two gamers to plot paths across a graph using algebraic notations, and knock the bad guys off the screen without damaging the on-screen hero. A 10 by 10 square grid dominates the playfield when the game begins, then alien creatures called Algebroids take their positions randomly around the graph. Finally, the friendly Ghost picks a spot, and it's time to begin the game. Type in an equation, using numbers, letters and symbols from the right side of the screen, to instruct the computer to draw a line across the graph. A whirlwind whips down this pathway, and destroys any Algebroid it touches. Points are awarded depending on how many are swatted with one blow, but if the line plotted should hit the Ghost, the graph gets gobbled and the score is zeroed. Then a new screen appears,

BECOME A VIDEO GAME WIZARD!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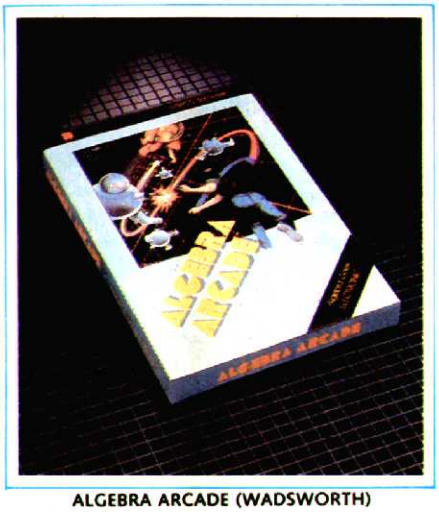
THE PLOT THICKENS: ALGEBRA ARCADE PLAYFIELDS

and the gamer appears before The Committee who decide whether and how much to penalize the gamer for the mishap.

Plotting a line across the grid can be tricky business until the gamer begins to grasp the meanings of the algebraic notations, but the program provides for practice even in the midst of the game. Just go to the practice option, experiment with different equations to learn what lines they'll produce, then return to the playfield to continue the game.

The game requires a small knowledge of algebra to begin plotting lines on the graph, but the instruction manual provides the new gamer with a few sample equations to get started. It's very simple to draw straight lines across the field and knock off Algebroids in this way. But higher scores result from more complex equations that produce curves that strike several of the little creatures with one line. Therefore the gamer develops a real interest in learning more complicated functions.



ALGEBRA ARCADE (WADSWORTH)

Algebra Arcade is a lot of fun to play. It's very interesting to see the tangible result of mathmatical equations take form on the graph, and entertaining to watch the whirlwind rush down the line that the equation produces, knocking off Algebroids. But possibly the greatest value of the program lies in the desire for more knowlege that the game produces in the player. It's impossible to play the game without wishing for more skill in algebraic notations, which makes it a great motivator for students of every age.

And besides, it's fun.

(Joyce Worley)

TRANSLATIONS

DONKEY KONG

Atarisoft/TI 99-4a/Cartridge

Get out your handkerchiefs, gamers. **Donkey Kong** has got Mario's girl again, and its up to the fearless carpenter to save his girlfriend from the overgrown ape. Mario must scale four different structures and surmount Donkey Kong's obstacles throughout each of them to rescue his sweetheart. He only has three chances to get to the top, though he can get an extra turn by scoring seven thousand points. The TI 99/4a version of *Donkey Kong* has all of the exciting features of the arcade game, plus the added advantage of a built-in pause control, which is activated by pressing the space bar. This gamer was very pleased with the cartridge's crisp, clear graphics and smooth action, and TI owners will probably agree.

(Joseph Pedreiro)
(Siobhan Stevens)

DEFENDER

Atarisoft/Commodore 64/Cartridge

Any home version of Williams' classic coin-op is bound to lose something in the translation to the small screen. After all, the control scheme with its plethora of buttons (thrust, fire, smart bomb, hyperspace and reverse) had to be adapted to a standard home joystick. But Atarisoft's C-64 cartridge is one of the weakest **Defender variants**, mostly due to its poor horizontal scrolling action.

Players use the joystick to maneuver a spacecraft across the horizon of an alien planet. The action button fires the laser gun, while the space bar on the keyboard controls the screen-clearing smart bombs. (Be prepared to let go of the joystick at a moment's notice, or learn to play with your feet!)

The scanner screen, which true *Defender* fans count on to track the enemy, is almost useless, since *all* enemies show up as tiny blips. Each attack wave is considerably shorter, and bombers and pods less dangerous, than in the coin-op version. But the problem that most affects the game is the choppy scrolling action and the difficulty players have in firing and

moving at the same time.

Though dyed-in-the-wool *Defender* freaks will find this game frustratingly unlike the original, it is the only duo-directional scroller available as of this writing. To determine if the game's drawbacks overshadow its good points, players should attempt to "try before you buy."

(Tracie Forman)

DEMON ATTACK

Imagic/IBM PCjr/Cartridge

When it first made its appearance in Atari 2600 format, Imagic's **Demon Attack** represented the state of the videogame art. Time — and a few dozen newer space invasion games — has dimmed the original's lustre somewhat, but the latest version — for the IBM PC jr — takes it right back to the top.

The PCjr *Demon Attack* utilizes the dual playfield set-up introduced by the Intellivision model. The demons swoop menacingly over the surface of the moon, with good old Terra looming large in the background. Then, after taking on the Big Enchilada's winged minions, the player meets the demon himself in a second screen designed to take your breath away. A magnificently articulated, multicolored strata of astral brimstone sits at the top of the playfield and, jutting prominently from the volcanic crown, the awesome countenance of Big Red looms over this deep space scenario. The demon opens his mouth and — wow! — harpies fly out! The object is to obliterate the winged demons before they leave the lair, zapping one of the three layers comprising their homestead with each hit. When the fortress has been breached, aim a shot at the demonmeister's cyclopean eye and the entire field shimmers and disintegrates. This sequence makes the best use of the PCjr's graphics of any piece of software on the market. In fact, it's so good that arcaders may find themselves resenting the time they're forced to spend on the somewhat trite invasion racks.

The only real complaint centers on that invasion scenario. As mentioned earlier, the Earth takes up so much space on the lunar playfields that the lower right quarter of the display is virtually "whited out" by it. Once a demon or the player's cannon move up against the planet, they are all but blotted from view, making play rather more problematic than it should be.

Demon Attack was never anything more than a gorgeous clone of **Phoenix**-type arcade games, but this new version is a copycat that has surpassed its archtype.

(Bill Kunkel)

DEMON ATTACK (IMAGIC/IBM PCjr)

PAC-MAN

Atarisoft/TI 99-4a/Cartridge

Gamers hungry for a little action can now rejoice. **Pac-Man** is now available for use with the TI home computer and he has as big an appetite as ever. The features that made *Pac-Man* an arcade legend can all be found in this new home version — with the exception of the money-muncher's intermission screens.

Graphics and sound effects are clear and crisp, and the player will find the added options of nine skill levels and a pause function, which is activated by pressing the space bar on the computer. To resume play, just push the joystick in any direction or press the fire button. Once the level of difficulty is chosen, the gamer proceeds to guide the dot gobbler through the maze, chomping those dots and staying ahead of the goblins, while trying to

PAC-MAN (ATARISOFT)

gobble up those tasty bonus nuggets. With nineteen (and up) consecutive mazes to master and tireless goblins to battle, the gamer is advised to get comfortable and to be *well* rested.

(Joseph Pedreiro)
(Siobhan Stevens)

ROBOTRON

AtariSoft/Apple II/48K disk

This proves that the designer of Robotron, the celebrated final chapter in Williams' coin-op **Defender** trilogy, definitely did not have the Apple II computer in mind. So this isn't exactly regulation **Robotron,** though it is at least distantly recognizable.

On the other hand, this disk is pretty entertaining on its own. The core of the program is the unorthodox control system. The joystick moves the robot-fighter around the enemy-infested playfield. One action button activates the hero's gun, while the other causes its arc-of-fire to rotate around the character's position. It's a little tough to get used to, but it makes for an exciting and fast-moving contest with lots of narrow escapes from doom. Give the anonymous designer credit for an imaginative solution to this translation problem.

(Arnie Katz)

POLE POSITION

AtariSoft/Commodore 64/Disk

There's never been a better home

edition of this racing game, which did so well in arcades during 1983. The C-64's audiovisual limitations notwithstanding, this is the smoothest, most exciting **Pole Position** yet offered to computerists.

The big difference is the control scheme. Drivers change gears with the action button, accelerate by pushing the stick forward and slow down by pulling it towards them. (The car does *not* decelerate when the stick is allowed to return to the neutral position.)

The cartridge offers four courses, each of which can be used with one to eight laps. Novices will want to try one or two laps, because high-speed crashes eat up so much precious time that it's very hard to qualify, much less actually place among the leaders in a real race, if your auto becomes a fireball.

(Steve Davidson)

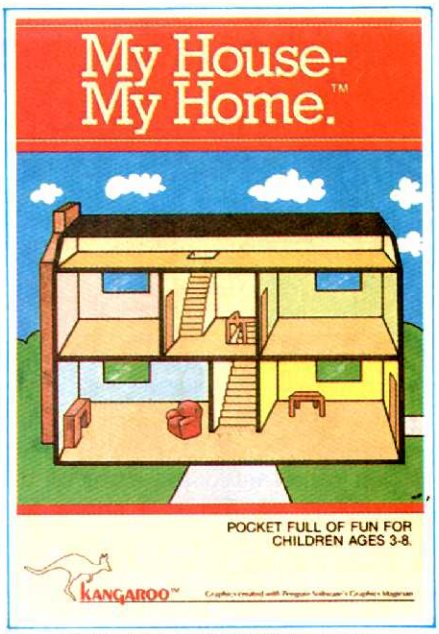
ENTERTAINMENTS

MY HOUSE — MY HOME

Designed by George Hoffman, Janet Orelove & Joseph Prieboy
Kangaroo/Apple/48K Disk

My House-My Home brings the dollhouse into the computer age in this entertainment that should keep kids amused for hours on end. Just as with a traditional miniature dollhouse, the object is to arrange and rearrange furniture throughout the tiny dwelling. But the fun comes from the computer, as the user chooses and discards various items, even pets and people, to decorate the home that takes shape right on screen.

After the title page, a cutaway of a two-story house with an attic appears, with the on-screen hero displayed at the bottom of the stairs. Move up and down the stairs or into any room, then the scene changes to a closeup of that location. The rooms are all empty when the program starts. A moving conveyor belt along the bottom of the screen presents furniture, and the young decorator chooses items for that room. A cursor then appears to guide the placement of each piece of furniture, and the arrow keys rotate the selected item left or right. When the furniture is turned to the desired angle, and the cursor is in the correct spot, the item is placed in the room. Then the conveyor belt of furniture starts rolling again, until that room is decorated. Then return to the whole house display, and choose another room to decorate. With four rooms plus the attic, there's quite a variety in furnishings to choose from. The computerist can change the decor many times, placing various belongings throughout the house, then adding people to the rooms along with cats and dogs to round out the pleasant domestic scene.

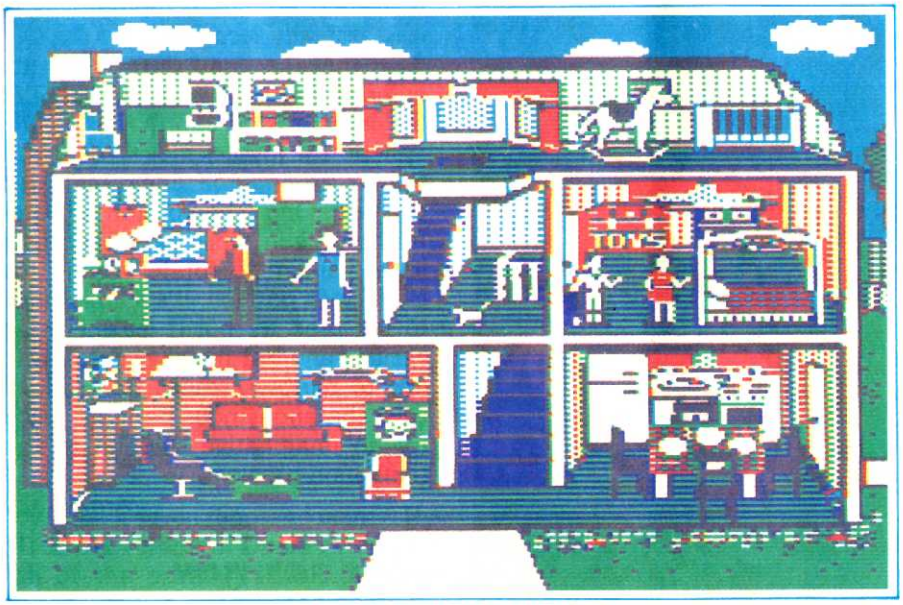


MY HOUSE MY HOME (KANGAROO)

Each item placed in a room automatically appears in front of any previously positioned furniture — it's not possible to put anything behind something already on screen, so this can lead to amusing juxtapositions of items in the house, as furniture is layered one piece on top of another. This also permits deliberate stacking, such as putting a lamp on a table, or the dog on his master's bed, or the cat in a chair. Errors are quickly corrected by removing the last piece placed or by clearing an entire room of the furniture within.

Movement is accomplished either by keyboard or joysticks. With only a little parental instruction, *My House-My Home* can be played by any age of computerist. It may never actually replace traditional dollhouses, but every youngster (and quite a few adults) will enjoy this video version!

(Joyce Worley)



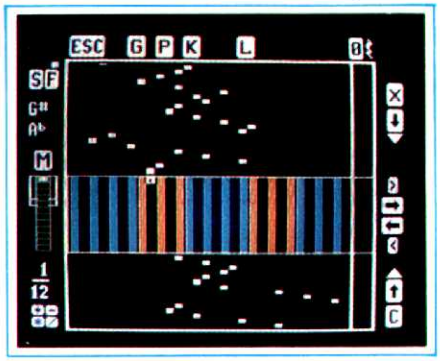
MY HOUSE MY HOME (KANGAROO)

SONGWRITER

Designed by Samuel Wantman & Art Bardige
Scarborough Systems/Atari 48K Disk

Songwriter turns your computer into a musical instrument, then lets kids and adults experience a wide variety of musical concepts in an enjoyable way. It takes no musical ability whatsoever to play with *Songwriter* but students who have a background in music will find a wealth of experience to help them toward even greater pleasure from their art. It's a good way to learn about musical intervals, scales, rhythm and structure, but *Songwriter*

SONGWRITER (SCARBOROUGH)



is a lot more, since it offers hours and hours of entertainment.

The manual that accompanies the program is an intergral part of the fun. The folks at Scarborough must have known that computerists would be anxious to play tunes, because the manual begins with a "Quick Start" section that lets even a beginner write songs immediately. Use the joystick and keyboard for a variety of functions, or the keyboard alone. Moving the joystick back and forth moves the on-screen cursor up and down the piano keyboard depicted on the monitor, and pushing the button records a note. Change the length of each note, erase bad tones, then play back the melody you've composed. Save the compositions for future use, then edit and rewrite them to suit yourself.

Songwriter also comes with a couple of dozen prerecorded songs on disk, available for playback any time. The computerist can even take one of these prerecorded masterpieces, alter it to suit himself, then play it back with the changes he's created.

Once the computerist has become thoroughly acquainted with the Quick Start section of the instruction manual, serious students will want to study the Total Guide. By working through the booklet, all the controls and variations in the program are spelled out in detail . . . and there are a lot of variations available, using the keyboard to change note lengths, tempos, rhythms, half-tones, scales, and sound quality.

An on-screen metronome adds a visual indication of the tempo, which can be altered through 20 different speeds. The program can also be set to name each note as it's played, and in this way reinforces formal musical training. The manual includes instructions for connecting the computer to a stereo, so that the musical compositions can be heard to their best advantage, and the program even comes packed with the necessary connecting cables for making the hookup.

Best of all, it's almost impossible to sound bad using *Songwriter.* The genius of the program is that even a musical illiterate can turn out a respectable-sounding theme.

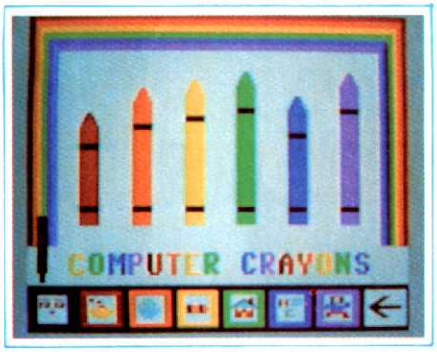
(Joyce Worley)

COMPUTER CRAYONS

Designed by Sterling & Barbara Johnston
Playground Software/
Commodore 64/Disk

Here's an electronic coloring book for kids that even adults will like! **Computer Crayons** has ready-to-paint scenes to delight children of all ages. It's operated by an illustrated menu, so tykes don't have to be able to read in order to play.

It works with a standard joystick, but the best way to play with *Computer Crayons* is using a light pen. The Edumate Light Pen, $34.95 from Futurehouse (the parent company of Playground Software) is perfect for young Rembrandts.



COMPUTER CRAYONS (PLAYGROUND)

First choose from four sizes of electronic crayons; then touch the alphabet symbol. The computer paints a letter on screen, starting with A. Press the symbol to make a picture appear. "Dip" the cursor, or the light pen, into the on-screen color pots and paint. If the color gets outside the lines, there's even "clear" paint to erase the wrong strokes. When the picture is finished, press the animation symbol and it comes to life. The airplane propeller spins, an animal runs out of the barn, the chicken hatches a baby clucker, and so forth through the 26 letters of the alphabet.

A sketch pad option lets the artist draw his or her own masterpiece on the screen, then color it in. There's even a piggy bank symbol to save any art that's created, so it can be called up again.

Computer Crayons is a very creative way for kids to interact with technology. It teaches the alphabet, then adds an entire entertainment dimension through the "coloring book pages."

(Joyce Worley)

COMPUTER CRAYONS (PLAYGROUND)

JOYSTICK

The Newest Controllers

FIRE COMMAND BY GIM ELECTRONICS

AEROBIC JOYSTICK FROM SUNCOM

As the crisp autumn air reminds us that it's time to stock up the larder against the upcoming winter freeze, many home arcaders are also taking stock of their gaming provisions. All that nifty pre-Christmas software is starting to find its way to retailers' shelves — and on to thousands of holiday must-have lists as well. But, as peripherals manufacturers have already learned, eye-popping graphics plus razzle-dazzle play action still adds up to zero without a comfortable, easy-to-use controller in hand.

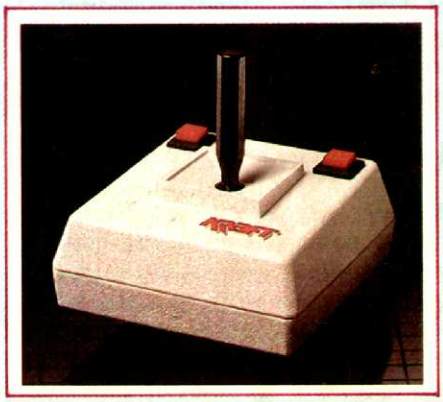
This year's line-up of brand-new controllers is far smaller than last year's joystick bumper crop. In light of the recent joystick shakeout, many manufacturers have adopted a wait-and-see attitude about the precarious industry, which lately has had more ups and downs than a carousel horse.

For example, Wico, the joystick giant, is standing by its established Command Control line of arcade-style joysticks, which includes ball-topped, bat-handled, and trigger-grip joysticks for the Atari and Commodore home gaming systems. An Apple, IBM, or TRS-80-compatible analog stick, featuring a wide-middle base and two action buttons, is among Wico's newer releases, though it hasn't made the huge splash that the keypad/joystick combinations have made among Intellivision, Atari 5200, and Colecovision owners. Wico's low-end Atari-compatible controller, The Boss, is also still enjoying a wide popularity, due in part to its low price and wide distribution.

Kraft is also holding the line with its well-established joysticks, including a left-or right-handed Atari model and a two-button Apple joystick with built-in trim control. With the impact Kraft's excellent controllers have already made on the market, perhaps the company thinks it superfluous to to release any new ones.

The newest company in the field is

KRAFT PREMIUM JOYSTICK



KRAFT'S SWITCH HITTER FOR THE C-64

UPDATE

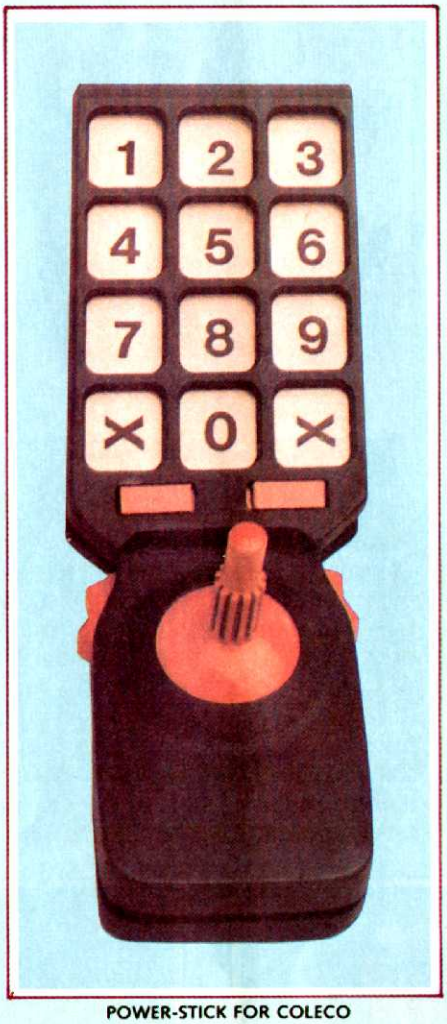
By TRACIE FORMAN

For Your Home Arcading

High Score, which debuted its lap-style, ball-topped joystick at the winter Consumer Electronics Show. Attractively packaged in its own black canvas carryall, the deluxe High Score Tournament Master features left- or right-handed control, two fire buttons for Colecovisionaries, and an auto-fire mode with its own LED indicator. The Tournament Master is available for most major game and computer systems, and it's color-coordinated to match its corresponding equipment. A no-frills version will be available soon as well, priced to serve the lower-end "popular" market. The controller will be basically the same, but without the carryall, LED indicator, and other non-essential niceties.

Gim Electronics, which caused a minor sensation with its Fire Command for the Atari and Colecovision, is bringing a 5200-compatible version to the market. With a slightly different feel than its non-analog cousins, the 5200 Fire Command features a y-adapter that must be connected to the keypad for full compatibility. Gim also dropped the price of its entire line from $40 - $55 to an average of $30.

Intellivision and Coleco owners can look forward to their very own versions of Amiga's pint-sized Power Stick, adapted to include a fully-compatible keypad. It looks and plays just like the Atari Power Stick, but the keypad has been piggybacked on at the top.



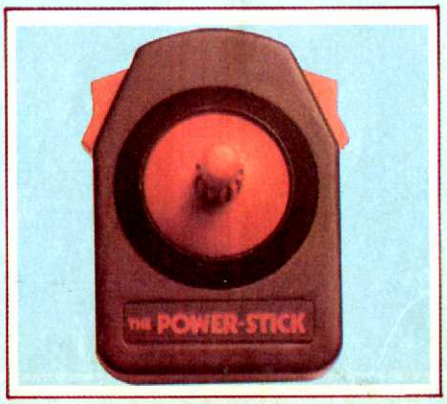
POWER-STICK FOR COLECO

And speaking of keypads, Championship Electronics introduced a Colecovision keypad that can be plugged into any Atari-compatible joystick to allow play with **Mouse Trap, War Room,** and other games that require a bit of number-pressing. It fits Championship's own Super Champ, as well as the new wireless Remote Champ and the smaller, two-button Mini-Champ.

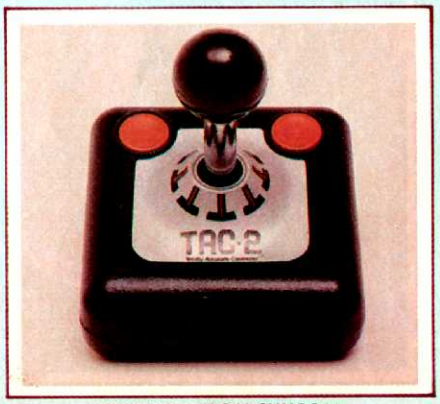
Like Wico, Suncom is standing firm with its established line of joysticks, including the TAC-2 and Starfighter models. The new controller from Suncom isn't a joystick at all, but rather a user-friendly graphics tablet called The Animation Station, being introduced for the Atari, Commodore, and IBM-PC computers. Unlike other touch tablets, The Animation Station is shaped just like a TV monitor, so users can create pictures which fit their screens exactly. An excellent drawing program is included in the package.

Add another excercise-oriented controller to Suncom's Aerobics Joystick and the Amiga Joyboard. Exus Corporation's Foot-Craz pad is a floor mat for use with the Atari 2600. The mat, which features several different colored sections, is plugged into the

ATARI SWITCH HITTER (KRAFT)



AMIGA'S PINT-SIZED POWER-STICK



THE TAC-2 FROM SUNCOM

UPDATE

2600 for use with the two games included in the package, **Jogger** and **Reflex.** In *Jogger,* the object is to run as fast as possible to catch up with an on-screen foe. The faster the gamer runs, the faster his or her electronic persona moves on the screen. *Reflex* is a derivative of the old **Simon**-style reflex games, requiring the player to step on the appropriate color of the mat in response to screen prompts. Exus will also be marketing an add-on joystick for exercise bikes.

Spectavideo's more conventional Colecovision joystick/keypad features full Coleco compatibility, suction pads on its bottom, and a top-mounted fire button (the second action button is located on the stick's grip). It's got an extremely light feel, though neither button is contoured to fit the fingers.

Another company relatively new to the field is Comrex, which is known for its line of monitors, printers, and other peripherals. The Atari-compatible CR-301 (how's *that* for a catchy name?) features sleek, high-tech styling with a pretty rounded base and small, fingertip-controllable stick. Like Gim Electronic's 5200 Fire Command, the CR-301 is micro-switch-based, giving gamers a satisfying, "click click" response to any press.

Several new companies have introduced bargain-basement sticks designed to compete with low-priced gourmet controllers like Wico's The Boss. The Transcriber Co. Inc. is showing The Faster Blaster, a tiny membrane controller that's compatible with all nine-pin systems like the Atari. Retailing at the bargain-basement price of $7.95 *list,* the Faster Blaster still might not appeal to traditional home arcaders because of its odd control scheme. The up and down controls are located on *top* of the right and left controls, instead of the more sensible north, south, east and west orientation of similar products.

WICO'S COMPUTER COMMAND

Another low-end joystick is Personal Peripherals', Supr Stik. With its pretty red base and single top mounted button, the Supr Stik has a looser feel than a standard Atari joystick, though it plays about the same.

Everyone's jumping on the light pens bandwagon these days, and companies are providing plenty of software products to use with their own variations. Tech-Sketch, one of the leaders in the field, has an excellent light pen for use with the Atari computers. Drawing and art, education, and entertainment are among the areas covered by Tech-Sketch's add-on software packages. Though Atari introduced its own light pen, its software support is far more limited.

Commodore and VIC-20 owners can enjoy Futurehouse's Edumate Light Pen, which is completely keyboard-activated and comes with three programs on a disk.

For in-depth information on these and other new joysticks, keypads, foot controllers, and oddities, stay tuned for hands-on reviews in EG's "In Control" column, in every issue of Electronic Games.

THREE-WAY COMMAND CONTROL BY WICO

WICO'S COMMAND CONTROL FOR THE 5200

WHAT'S NEW! WICO.

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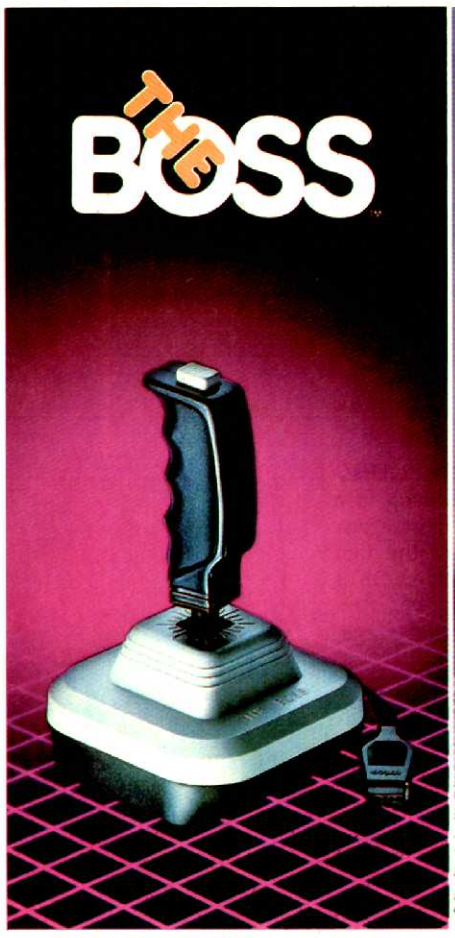

$3.00 OFF THE BOSS. The grip that lets you boss any game around.

$5.00 OFF THE COMPUTER COMMAND Analog Joystick. A must for the serious computer game player.

$5.00 OFF COMMAND CONTROL Bat Handle. The only control that gives you the feel and authenticity of the arcade at home.

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WICO is offering big bucks back when you buy a new control before September 30, 1984.

WICO has specific controls for everyone. And NEW rebates to go with them. You can get big bucks back on THE BOSS ($3) and on these Command Control products: The New Super 3-Way Joystick ($5);* Joystick/Keypad for Coleco® ($3);* Numeric Keypad for Atari® 5200™ ($2), Bat Handle Joystick ($5), Analog Joystick for Atari® 5200™ ($3). The TAKE FIVE rebate offer is specifically for the Computer Command Analog Joystick for Apple® and IBM.® There are rebates galore. Your WICO dealer will show you how to get your rebate on all the controls offered when you make your purchase. It's simple. And you get your money back fast. So get going. Get scoring. And take advantage of these money saving rebates.

WICO

MAKE A GOOD COMPUTER OR VIDEO GAME BETTER.

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*Super 3-Way Joystick (50-2002); Joystick/Keypad for Coleco (50-0320).

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PLAYERS GUIDE TO

C-64 SOFTWARE

HAIL TO THE COMMODORE

MORE THAN A MILLION

The Commodore 64 is the fastest-selling home computer in the U.S., having entered more than one million American homes during 1983, its first year of availability. Although Commodore's other micro, the VIC-20, still had twice as many owners as the 64 as of January 1, 1984, few doubt that the more powerful C-64 will erase the gap this year.

Analyzing the popularity of something as complicated as a computer is tricky, but the price-value equation seems to be the main factor influencing the purchase of the C-64. The machine simply gives a lot for the buck, though other systems often boast superiority in one or more individual areas such as graphics resolution, sound generation, memory, and user-friendliness. The C-64's secret appears to be that it rates at least better-than-average in every respect — and it does so at an attractive retail price.

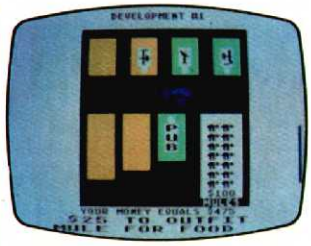
THE SOFTWARE EXPLOSION

A computer system goes through three stages of software support from the time the manufacturer rolls the first production unit until it achieves its peak of popularity. The history of the Commodore 64 closely conforms to this pattern.

The first stage is no software support. The first group of pioneering C-64 purchasers had to wait as long as a month after getting their systems home before the first games hit store shelves. Oh, it was a lonely time. . . .

During the second stage, most of the software produced for a system consists of translations of games first programmed for other machines. The hard-charging C-64 plunged full speed ahead into this stage by mid-1983. Companies such as Broderbund **(Lode Runner)**, Electronic Arts **(M.U.L.E)**, Infocom (the **Zork** trilogy) and Epyx **(Gateway to Apshai)** quickly made it obvious that modern home-game classics would henceforth appear for the system as a matter of course.

The third stage begins when software publishers be-



M.U.L.E. (ELECTRONIC ARTS)

JUICE! (TRONIX)

Lead the Revolution!

You're an unhappy Interface Robot (#1984) in rebellion against "Big Brother" and his "Evil Eyes". The Evil Eye dictates the "Law". The Eye will kill you if it sees you breaking the Law. Your mission–destroy the Evil Eye.

You can break the "Law". Just don't get caught! The Law is simple! No jumping! Not to worry. You can jump to the red zones while the Eye isn't looking. But look out if it turns red and sees you. After you've advanced far enough, you can blast the Eye and reach the magic Pyramid. Then it's on into space to liberate the next universe. Trouble is, there are 10 or 15 different nasties trying to bomb, slice, crush, saw, eat, or otherwise destroy you.

I, ROBOT is HOT! It's so new you won't believe your eyes.

It's awesome new 3-dimensional graphics, incredible animation, over 100 different waves with 22 playfield "terrains", and more.

So get into it. Down with B.B.!

NEW FROM ATARI COIN VIDEO GAMES

gin producing programs for the system. Actually, companies like Tronix **(Juice!)**, Creative Software **(Spitball)** and Commodore **(Star Ranger)** have been producing major new titles for the 64 market almost from the beginning of its lifespan.

C-64 SOFTWARE TODAY

The process of translating hits originally published for other home computer systems continues, and there's been a marked upswing in software expressly created for the C-64. Some companies, such as DataSoft, are now developing games for the 64 — and then translating the results for rival brands of computers.

Commodore itself has tremendously upgraded its software program in the last 12 months. For a company that many once damned as knowing nothing about recreational software, Commodore's recent track record is truly amazing. Its line-up blends arcade translations **(Kick-man, Gorf, Wizard of Wor)** with some startlingly good created-for-the-home titles **(International Soccer, Jack Attack)**.

The entry of Atarisoft into the field has proven to be another C-64 software milestone. Now the Sunnyvale, Ca., publisher's hits are finally available for this and other non-Atari hardware systems.

The most favorable sign, however, is that virtually every software publisher has produced at least a few C-64 titles — or plans to do so in time for the big fall selling season. Though the library of games for the Commodore 64 is still smaller than those for the Apple and Atari computers, the difference grows smaller by the week. An electronic gamer can now buy a C-64 confident that virtually everything of interest will be made in C-64-compatible format now or in the near future.

As game designers become more familiar with the Commodore's particular machine language codes, C-64 owners can expect to see more titles released for their own computers first.

INTERNATIONAL SOCCER (COMMODORE)

JACK ATTACK (COMMODORE)

THE COMMODORE HOME ARCADE

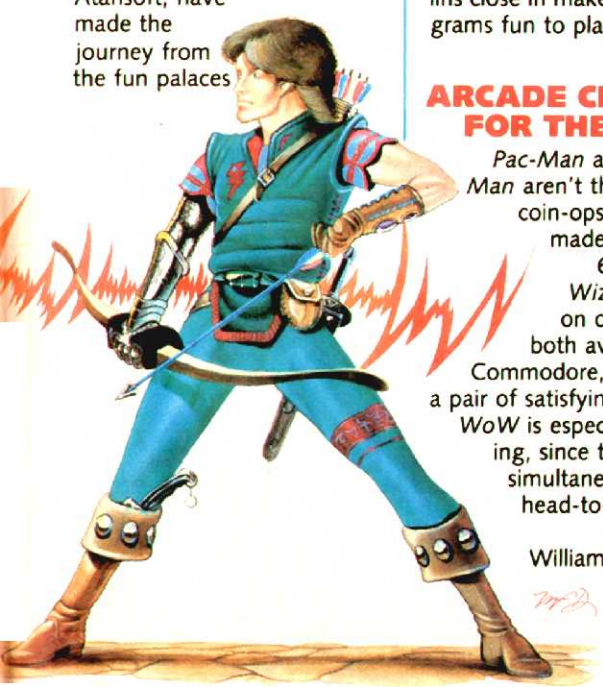
CONTROLLING THE COMMODORE

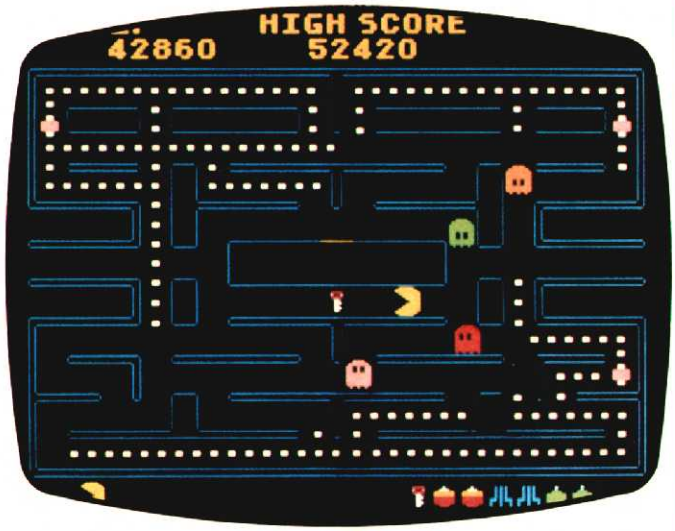
Arcade-to-home translations are numerous for the Commodore 64, though the home editions sometimes fail short of the mark when it comes to audio-visual effects. On the other hand, the availability of numerous excellent C-64 compatible controllers — the system is compatible with the Atari 2600, Atari home computers, VIC-20 and, to some extent, the ColecoVision — means that effective control of on-screen objects is seldom a problem. Commodore is readying an accessory which greatly enhances the sonic output of certain games such as *Gorf*, which will make home cartridges sound more like the play-for-pay inspiration.

THE *PAC-* COMMODORE

Pac-Man and **Ms. Pac-Man,** both on cartridge by Atarisoft, have made the journey from the fun palaces to the Commodore 64 in fine shape. As always, the extra features of *Ms. P,* including the multiple mazes and mobile bonus objects, make it the bigger attraction to most gamers.

Command control for both titles is excellent. The ability to corner quickly when the goblins close in makes these programs fun to play.





PAC-MAN (ATARISOFT)

ARCADE CLASSICS FOR THE C-64

Pac-Man and *Ms. Pac-Man* aren't the only Bally coin-ops which have made it to the C-64. *Gorf* and *Wizard of Wor,* on cartridge, are both available from Commodore, and they're a pair of satisfying programs. *WoW* is especially appealing, since two can play simultaneously, either head-to-head or cooperatively. Williams' **Defender,** which introduced duo-directional scrolling shoot-outs, is now an AtariSoft cartridge for the C-64. Except for the sound, the cart is much like the quarter-snatcher, but *Defender* is looking a little creaky compared to such newer scrollers as **Repton** (Sirius) and **Aquatron** (Sierra On-Line). Still, this edition should prove moderately pleasing to the legion of *Defender* buffs.

Frogger is among a recent spate of Parker Brothers cartridges. Some gamers feel this cartridge is as good or better than the play-for-pay device. In any case, it's a joy to see and a delight to play. Parker is expected to market cartridges for **Super Cobra** and **Q*bert** in the near future.

AtariSoft's cartridges based on **Battlezone** and **Centipede** are decent, if not Arkie winners. The former's vector graphics don't travel well to the C-64, while the latter loses a measure of its cuteness in this version. *Centipede,* in particular, does have pretty good play-action, and it's worth a check by invasion game fanciers.

REPTON (SIRIUS)

THE LATEST COIN-OP WINNERS

Possibly because the hardware itself is so new, translations for the C-64 are generally recent titles from the amusement centers.

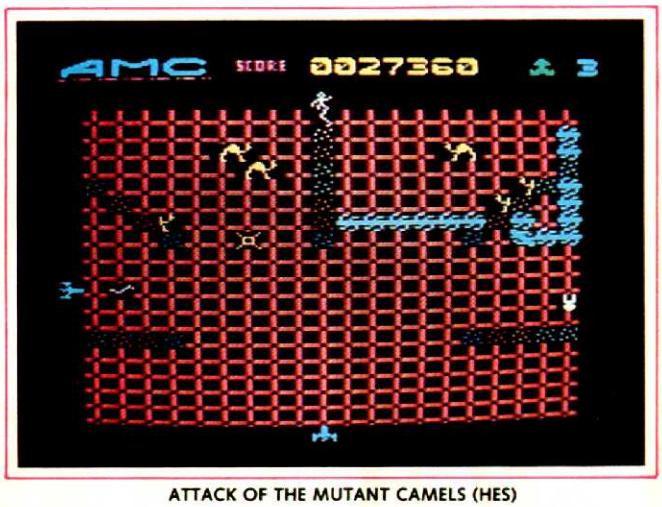
Atari computer owners might be a little jealous about AtariSoft's **Pole Position** cartridge. Its novel approach to control stamps this as the best of the home editions. Atari-

POLE POSITION (ATARISOFT)

Soft's **Jungle Hunt** cart is also a stand-out. It features play-action like the coin-op, set off by a crisp visual treatment that some will consider more attractive than the original. **Robotron** (AtariSoft), on the other hand, has drawn mixed reviews.

Blue Print (Commodore), **Solar Fox** (CBS Software) and **Rootin' Tootin'** (HES) come to the C-64 without a glowing pedigree of arcade supersuccess, but all are likely to flourish in the home gaming environment. They require a bit more strategy than most action games, and so seem perfectly suited for play on the C-64, where skill can be honed over hundreds of rounds.

ACTION GAMES

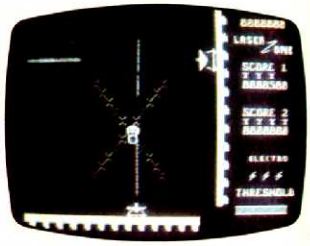


ATTACK OF THE MUTANT CAMELS (HES)

READY, AIM. . .FIRE!

There's no lack of shoot-'em-ups for the C-64, including several created expressly for this system. **Attack of the Mutant Camels** (HES/Cartridge), Jeff Minter's invasion-game sequel to **Gridrunner** (HES/Cartridge) has all the thrill-a-minute action of the earlier title along with quite a few improvements, especially in audio-visuals. The C-64 edition of **Threshold** (Sierra On-Line) lacks the limited vertical movement capability of the Apple disk, but the ability to move at super-speed for brief periods of time keeps this program fresh and enjoyable.

Jeff Minter's latest, **Lazer Zone** (HES/Cartridge) has a novel play-mechanic. The computerist controls shooters which move along the bottom



LAZER ZONE (HES)

and righthand edges of the playfield depending on which direction the player pushes the stick. There's a lot of subtlety along with the shooting in this one.

Adding a dose of strategy to the combat action are a trio of disks from Synapse: **Zeppelin, Ft. Apocalypse** and **Shamus, Case II.** All three originally appeared for the Atari home computers, but are now on store shelves for the Commodore sustem as well. *Zeppelin* is particularly good, since the home arcader can improve the odds of escaping the Timelord's cavern by shooting the switches which control elements of the defense.

Science fiction shoot-outs for the 64 include the Arcade Award winning **Astro Chase** (First Star) and **Neutral Zone** (Access Software). The former is a thrust-fire contest with a patented control system that allows the player to fly in one direction while shooting in another. The latter is a first-person flying and shooting game set in a far corner of the universe.

CHANGING COLORS

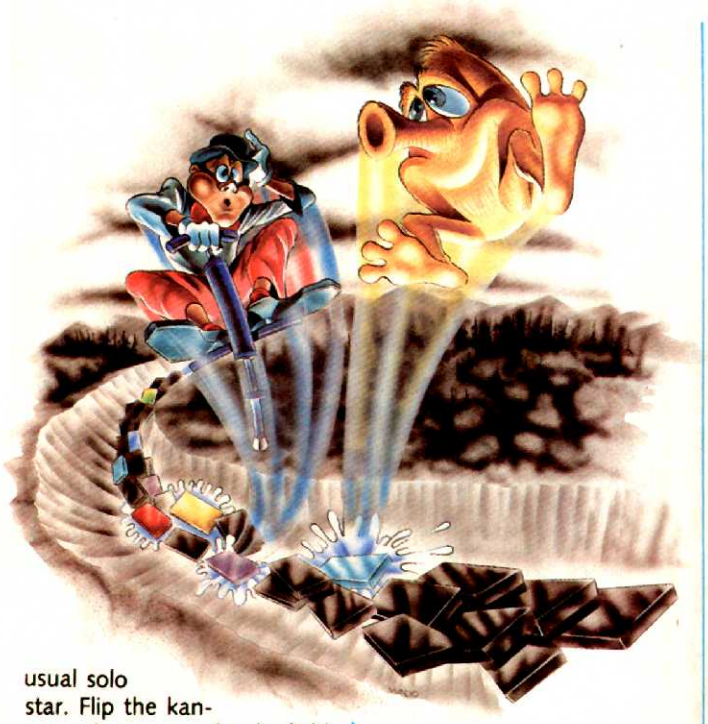
Parker Brothers has its arcade-to-home translation of Mylstar's *Q*Bert* ready to hop to market, but a couple of superb color-changing games are already waiting to challenge the block-hopper for the affections of C-64 gamers **Pogo Joe** (Screenplay/disk) is a C-64 exclusive which boasts state-of-the-art graphics, multiple playfields, hummable musical score and near-flawless programming. The idea is to bounce the clown on the pogo stick from cylinder to cylinder, changing

Q*BERT (PARKER BROTHERS)

FLIP AND FLOP (FIRST STAR)

the tops to the desired colors. Eggs containing animated toys hatch periodically, and Pogo Joe must avoid some while chasing down others to gain bonus points. **Flip & Flop** (First Star/Disk) has two heroes instead of the

FOR THE C-64



PLAYERS GUIDE TO
C-64 SOFTWARE

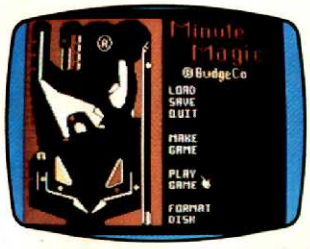
usual solo star. Flip the kangaroo hops around a playfield built of small platforms connected by ladders, while Mitch the Monkey swings across the underside of the same configuration on alternating screens.

THE PINBALL PALACE

David's Midnight Magic (Broderbund/disk) won awards as an Apple program, and is now collecting more fans since Broderbund put it on the C-64. Its two level playfield, capability for multi-ball play and restrained use of features such as kickers and drop targets make it a connoisseur's delight.

Night Mission Pinball (Sublogic/disk) remains the most ornate pinball simulation ever produced for this or any other system. Bruce Artwick has done an astounding job of transposing the real pinball experience to the world of electronics. Why, the player even has to insert an digital quarter before each game 8 unless you're playing off previously won free rounds, of course. . .

Programs worth a look by pinballers are **Slam Ball** (Synapse/Disk) and **Spitball!** (Creative Software). The latter isn't really pinball, but its play-action — shooting spheres through gates to score — should appeal to silverball fans.



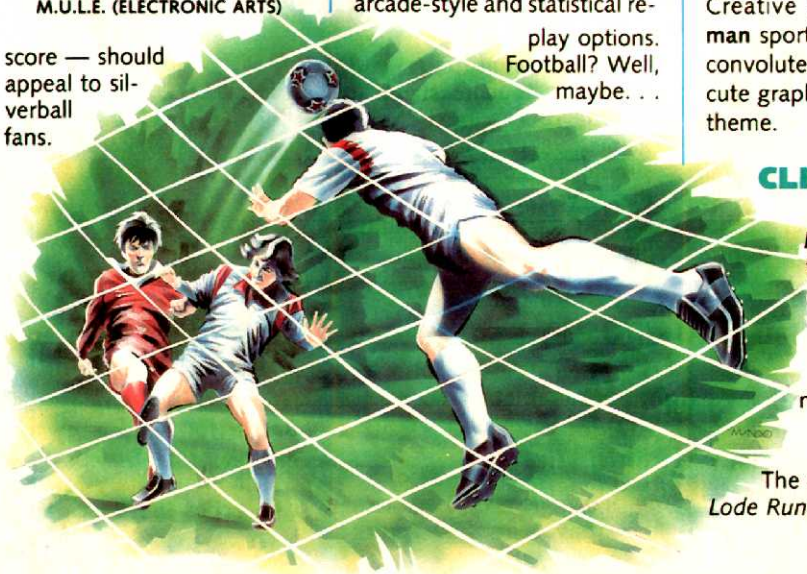
M.U.L.E. (ELECTRONIC ARTS)

If you'd rather build your own, there's Bill Budge's **Pinball Construction Set** (Electronic Arts/Disk). Nonprogrammers can easily assemble a wholly original pinball table using the joystick controlled parts box.

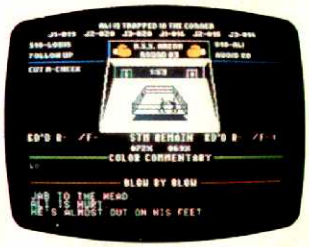
IT'S SPORTS TIME!

Quantity is still skimpy, but it's hard to knock the quality of games like **International Soccer** (Commodore/Cartridge), **Computer Baseball** (Strategic Simulations/Disk), **Ringside Seat** (strategic Simulations/Disk), and **Pit Stop** (Epyx/Cartridge).

Strong signs point to the end of the sports game drought this year. By the end of 1984, C-64ers will be able to play **Starleague Baseball** (Gamestar), **Rally Speedway** (Adventure International) and basketball and tennis games from Commodore. Also heading for the home market is Epyx's eagerly-anticipated **World's Greatest Baseball Game**, which offers both arcade-style and statistical replay options. Football? Well, maybe. . .



The same design team that created the **World's Greatest Baseball Game** is working on a companion disk covering football. Commodore, too, is said to be working on a grid-



RINGSIDE SEAT (SSI)

iron project. First into the stores, however, could be Avalon Hill's **Football Strategy**, a skill-oriented program that emphasizes canny play-calling on offense and defense.

A-MAZE-ING FUN

The Pac-family doesn't have a lock on labyrinth programs. On-Line's **Jawbreaker II** and T&F's **Candy Bandit** utilize linear rather than twisty mazes, while Creative Software's **Trashman** sports an assortment of convoluted mazes set off by cute graphics and an unusual theme.

CLIMBING AND JUMPING

Miner 2049er (Reston/Disk) and **Lode Runner** (Broderbund/Disk, Cartridge), both Arkie winners in 1983, now have C-64 editions. They're excellent, too. The cartridge version of *Lode Runner* includes "only"

LODE RUNNER (BRODERBUND)

17 playfields, but gamers can use the screen generator to build new ones to keep the challenge fresh.

THE UNIQUES

Jack Attack (Commodore/Disk) features a blend of climbing, block-pushing and squashing that should hook those who enjoy a dose of strategy with their action. The 22 playfields present a series of puzzle-like situations worthy of any arcade ace.

Gust Buster (Sunrise/Disk), a balloon flying contest, lacks the stickless movement system pioneered on the ColecoVision edition, but is otherwise the same fine electronic obstacle course.

GUST BUSTER (SUNRISE)

Bristles (First Star/Disk) turns housepainting into a charming — and enjoyable — contest. You've got to climb and descend ladders to brighten the walls of a series of increasingly complex homes.

ACTION-ADVENTURES

Return of Heracles (Quality/Disk), **Gateway to Apshai** (Epyx/Cartridge), **Pharoah's Curse** (Synapse), **Quest for Quintana Roo** (Sunrise),

TELENGARD (AVALON HILL)

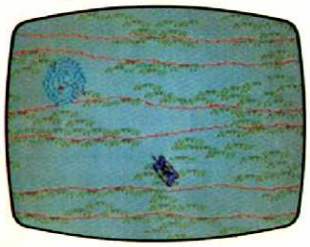
Zombies! (Bram), **MazeMaster** (HES) and **Telengard** (Avalon Hill) lead an unusually strong field of games.

Quest for Tires (Sierra On-Line) and **Dragon's Den** (Commodore) are closer to mission-completion games than true adventures. *Tires'* outstanding graphics and humorous touches stamp it as one of the best "cute games" yet produced for this system. *Dragon's Den*, casts the player as a knight on a winged charger in a multi-phase battle against evil.

GAMES

THE ART OF WAR

Avalon Hill and Strategic Simulations are the two main publishers of skill-oriented electronic board wargames. AH currently offers a pair of tank games, **T.A.C.** and **Panzer-Jagd.** The former combines electronic and non-electronic elements to simulate small-unit fighting, while the latter gives a full graphic treatment to tank-hunting action.



T.A.C. (AVALON HILL)

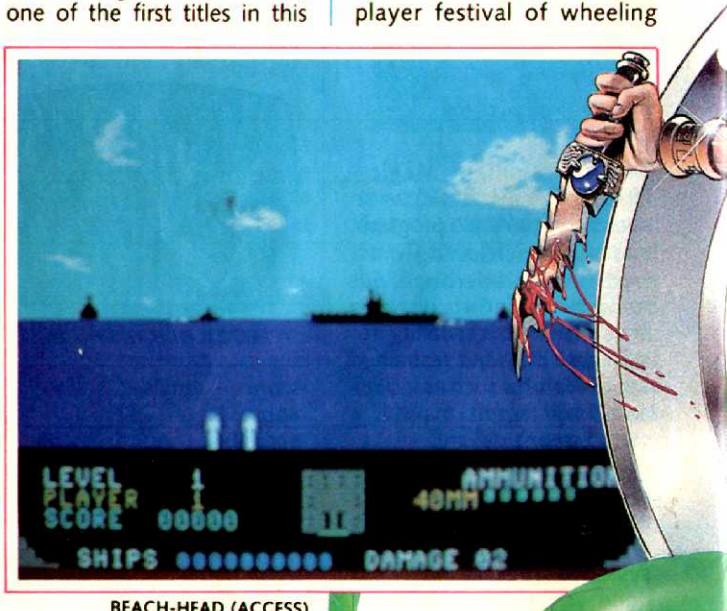
Tanks are also the subject of SSI's **Tigers in the Snow,** one of the first titles in this extensive line to come to the C-64. Other translations already available or set to launch shortly are **Eagles, Battle for Normandy** and **Knights of the Desert.**

Blending military Strategy with action are **Beach Head** (Access Software/Disk) and **Whirlwind** (Broderbund/Disk). The former is a multi-phase treatment of WWII Pacific theater action, while the latter evokes infantry-tank actions of the type common in the European sectors of the same conflict.

THE MONEY GO-ROUND

Millionaire (Blue Chip) and **Computer Stocks & Bonds** (Avalon Hill) both cater to would-be wizards of Wall Street. Both provide considerable scope for wheeling and dealing, and *Millionaire*, in particular, is an intricate simulation of the ins and outs of the stock market.

If commercially exploiting a new planet is more your thing, check out **M.U.L.E.** (Electronic Arts), a multi-player festival of wheeling



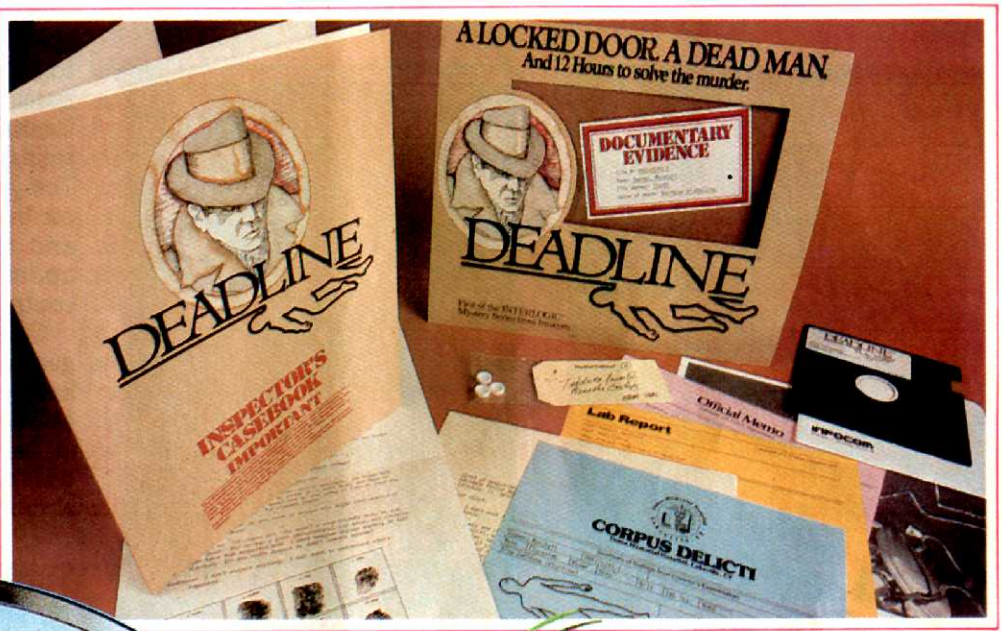
BEACH-HEAD (ACCESS)

FOR THINKERS

and dealing. If your financial interests are more down-to-Earth, you can try your hand at running a computer company in **In the Chips** (Creative Software).

THE ARM OF THE LAW

Two outstanding detective games for the C-64 are **Murder on the Zinderneuf** (Electronic Arts/Disk) and **Murder By The Dozen** (CBS Software/Disk). The EA solitaire program turns the player into one of eight famous detectives who must solve a murder on a trans-Atlantic zeppelin. *Murder by the Dozen* challenges sleuths with 12



DEADLINE (INFOCOM)

crimes committed in Micropolis. Infocom's **Deadline** and **Witness** are adventures which are apt to please mystery buffs. Neither text adventure is easy, and both are guaranteed to tax the powers of even a Sherlock Holmes.

THE GLORY ROAD

Infocom and Sierra On-Line dominate the adventure game category, though Adventure International has translated most of its well-known puzzle dungeons into the C-64 format. Virtually all the titles popular for other systems from all three companies are available for the Commodore.

DataSoft could well be the first company to create an illustrated adventure expressly for the C-64. Fittingly enough, the project, **Dallas Quest,** is unique from other standpoints as well. Most obviously, it is the first attempt to turn a TV drama into an adventure program.

DALLAS QUEST (DATASOFT)

Ultima II, the classic "role-playing" adventure, is also available for the C-64, and Lord British's Origins Systems is set to release all future *Ultima* games, like its four-character **Ultima III,** for this popular home computer system.

VECTOR

The Rise — and Fall? —

GCE'S VECTREX

SPACE WARS (GCE)

By BRIAN SCOTT

Ask a mathematician what "vector" means, and the reply is likely to be something like, "A physical quantity that has magnitude and direction in space, as velocity and acceleration." But pose the same question to a videogamer and the answer will be more like, "A system of graphics that etches straight lines onto a screen."

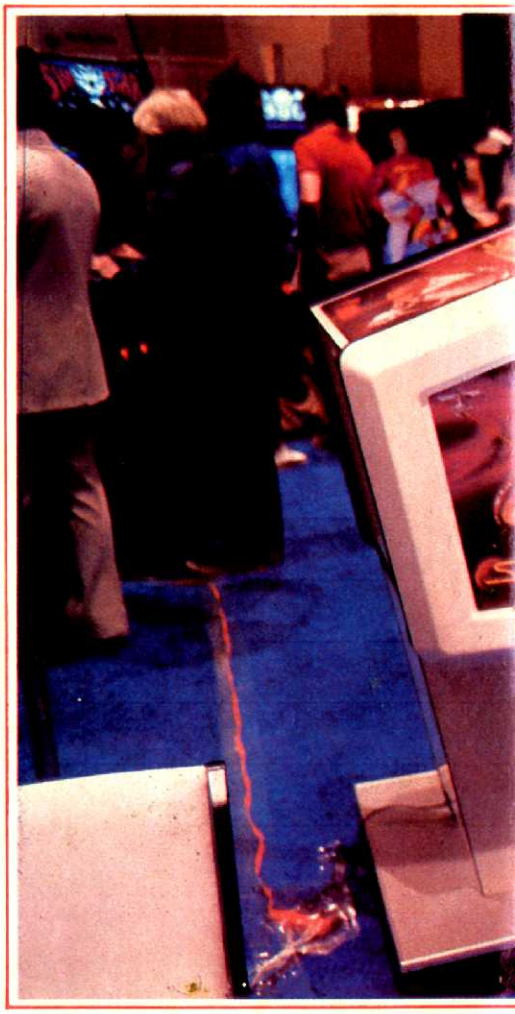
Vector graphics, a staple in the arcades as well as home videogaming (the Vectrex system by GCE), requires the engineer to have a very strong sense of geometrical concepts like translations, dilations, rotations, mappings, and XY coordinates. (In layman's terms, these can be interpreted as movement, changes in size, spinning, and the actual construction of an on-screen object.) Anyone who's ever slept through geometry in school would probably never associate those terms with the kind of fun they have playing videogames.

While the more traditional raster-scan graphics are still more widely used in arcade and home games, there are plenty of advantages to using vector graphics. For one thing, vector makes it easy to draw many on-screen objects — and move them — with precision, and color resolution is especially crisp. Vector graphics systems have their drawbacks as well. It's just about impossible to produce real-looking images due to the lack of shading, and large areas are often left empty of detail. However, vector's biggest drawback is its considerable cost, at least in arcade machines. (The home vector graphics system, the Vectrex, actually costs *less* than other gaming machines with comparable memories.)

When Cinematronics' **Space Wars** arrived in arcades in 1978, the newborn videogame market was given a boost by the machine's novel technology. (Larry Rosenthal, creator of *Space Wars*, is widely credited with having invented vector graphics. He later left Cinematronics to form a company called Vectorbeam.)

Space Wars was an imaginative, original game with its basis in a game created in 1962 by computer students at MIT. The game allowed two players to simultaneously battle each other in space, with ships looking very much like the Starship Enterprise and the insignia worn on its crew's uniforms. The game ushered in a new set of controls, like the thrust and fire modes and the ever-popular hyperspace option. Previous games had fewer controls (usually one or two).

Cinematronics later went great-guns into vector graphics games, releasing titles like **Starhawk** (reminiscent of the death-star trench sequence in Star Wars), **Tailgunner** (the first 3-D first-person videogame, which was also one of the few games that didn't



GRAPHICS

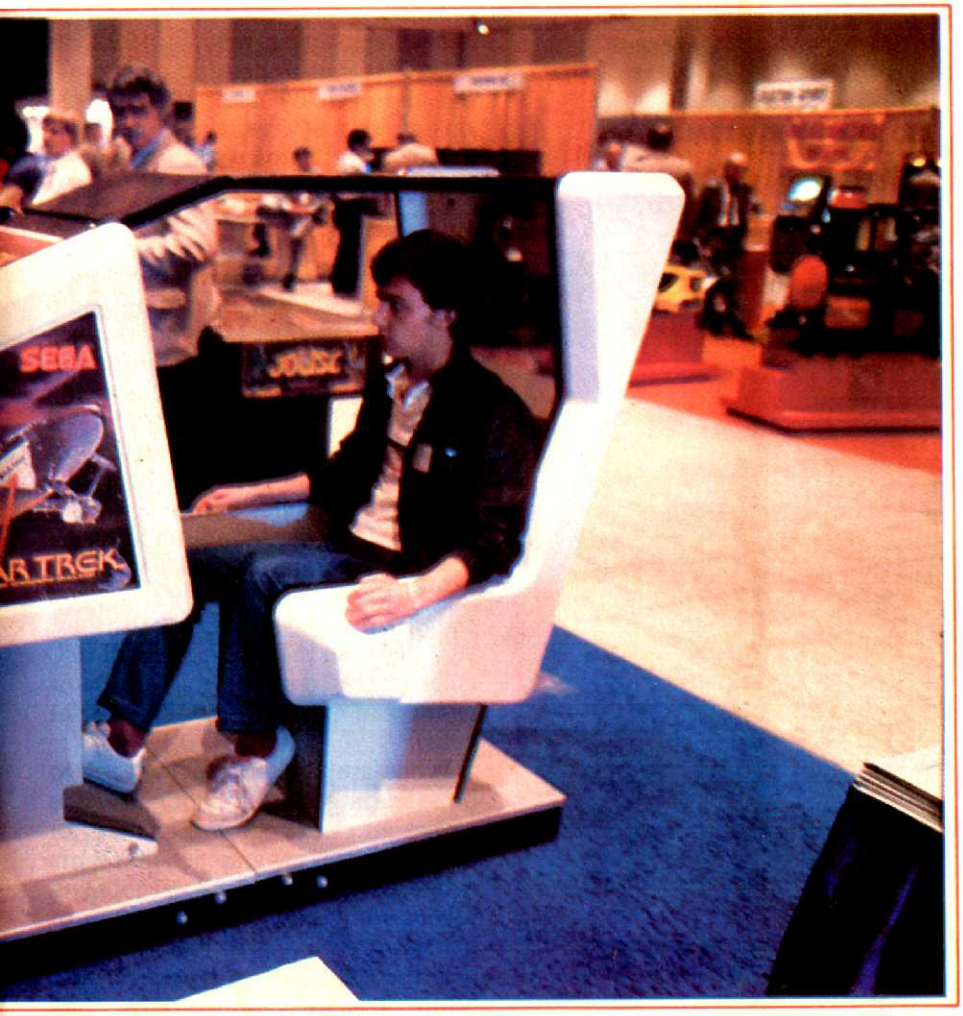
of a Controversial Display Technique

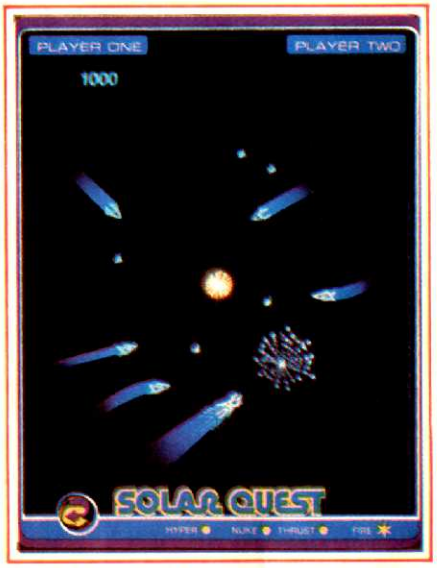
use a timer), **Rip Off**, **Armor Attack**, and more. The same company also holds the rights to **Cosmic Chasm**, the first home-to-arcade license from GCE's Vectrex system and one of the few full-color vector graphics games in the arcades.

If Sega, now a subsidiary of Bally/Midway, were to be identified by one word, that word would be: revolutionary. The vast majority of its games were innovative — consider **Zaxxon** and **Turbo**. What really set the world afire, though, was **Space Fury**.

Its game play wasn't all that new, but what grabbed people were two things: color vector graphics and voice synthesis. Up until 1981 when *Space Fury* was released, game players were either playing vector games in black & white, or vector games with a colored plastic overlay on the screen. Sega didn't seem satisfied with present day technology, so it decided to reinvent the vector process. It opted for vector graphics primarily because of the sharpness of detail and an edge over raster screen, which at the time was being used for a majority of the games on the market.

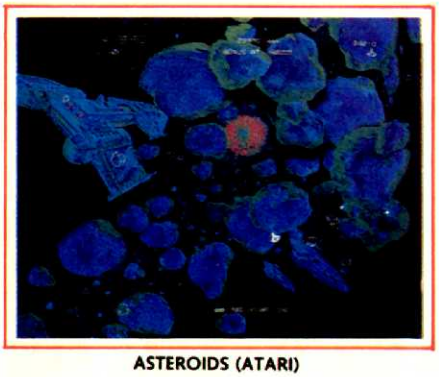
The second innovation *Space Fury* delivered was voice. This wasn't en-





GCE's *Solar Quest* for the Vectrex, pictured above; Sega's coin-op *Star Trek* at left; *Gravitar*, by Atari, is shown below.

VECTOR GRAPHICS



ASTEROIDS (ATARI)

tirely new with **Berzerk** and **Gorf** already out, but the alien's voice had something different about it: It was human! It seemed as though someone uttered, "So, a creature for my amusement" in a voice so clear, it absolutely riveted gamers to the spot.

Since that time, Sega's raster to vector game production has been five to one, with only **Zektor**, a vector *Zaxxon* with a female voice, and the colorful voice-enhanced **Star Trek**.

Atari has been a brilliant star in the videogaming world for quite some time, and the name shines very brightly indeed, when we speak of Atari's coin-op division. Though Atari has made a name for itself with typical raster-scan graphics, the vector system hasn't been completely ignored.

In 1979, **Lunar Lander** became Atari's most talked-about game, at least partly because of its novel vector graphics, but also because of its lever-type control scheme. In the game, players controlled a small lander, attempting to set it down on different flat outcroppings of rock.

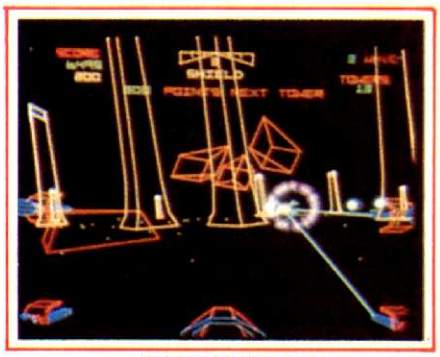
When fans clamored for more, Atari responded with what was to become the most talked-about vector-graphics game of all time: **Asteroids**. The rest is history!

But vector graphics are not for arcaders alone. When GCE entered the videogaming field in 1982, its main idea was to develop an alternative approach. By utilizing vector technology and 64K capability, the only vector-based home videogaming system was born.

The Vectrex includes its own sound chip — generating more arcade realism than the mass-produced sound chips used on every other home device — and its own built-in monitor, which provides sharp vector graphics and easy portability, as well as freeing the family TV set from being monopolized for hours on end. Add to this an arcade-style control panel, and a solid stand-alone hit was born.

Though its black-and-white monitor was the state-of-the-art in vector graphics at the time, technology has caught up to the Vectrex, and the last year has seen the introduction of full-color games, computer ability, 3-D imagery, and extra controllers (like light pens).

While laserdisc technology seems to be squeezing more traditional arcade games into the cold, the game's not over yet for vector graphics. **Star Wars** is one of the hotter games gobbling tokens right now, and more vector games are sure to grab their share before the tallies are in. However, the future of vector is unpredictable.



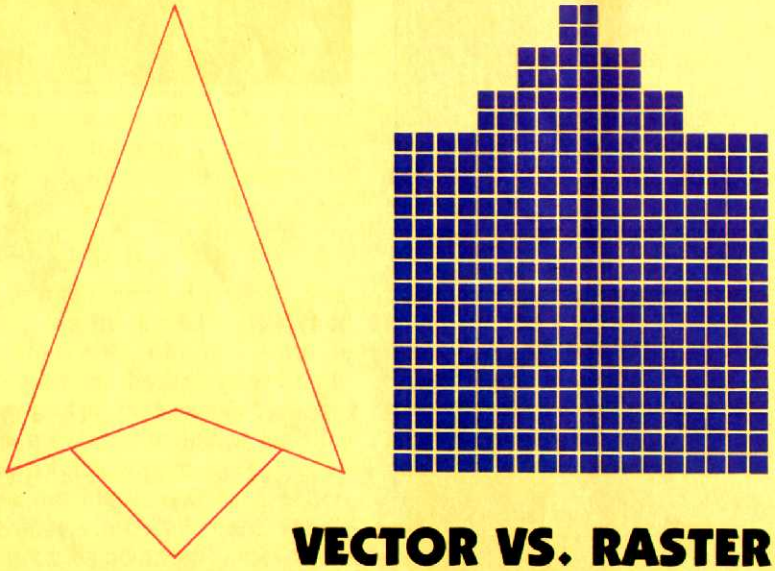
STAR WARS (ATARI)

VECTOR AT HOME AND IN THE ARCADES

The following is a partial list of the best vector games to have ever zipped across a screen:

MANUFACTURER	GAME
Atari	**Asteroids**
	Battlezone
	Star Wars
	Tempest
Bally/Midway	**Omega Race**
Cinematronics	**Armor Attack**
	Space Wars
	Star Castle
	Star Hawk
	Tailgunner
GCE	**Berzerk**
	Cosmic Chasm
	Scramble
	Star Trek
	Web Wars
Sega	**Space Fury**
	Star Trek

The diagram below illustrates the difference between vector and raster graphics. Vector plots line by line; raster, pixel by pixel.



VECTOR VS. RASTER

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PROGRAMMABLE PARADE

Get Into the Action with Lucasfilms' Ballblazer!

BALLBLAZER

Atari-Lucasfilm/Atari 5200

Ballblazer introduces an entirely new method for depicting video sports. The overhead and side perspectives employed by all previous sports software simply can't match the immediacy of *Ballblazer's* first-person perspective. A horizontally divided display gives each competitor in this instant classic an athlete's-eye view of events.

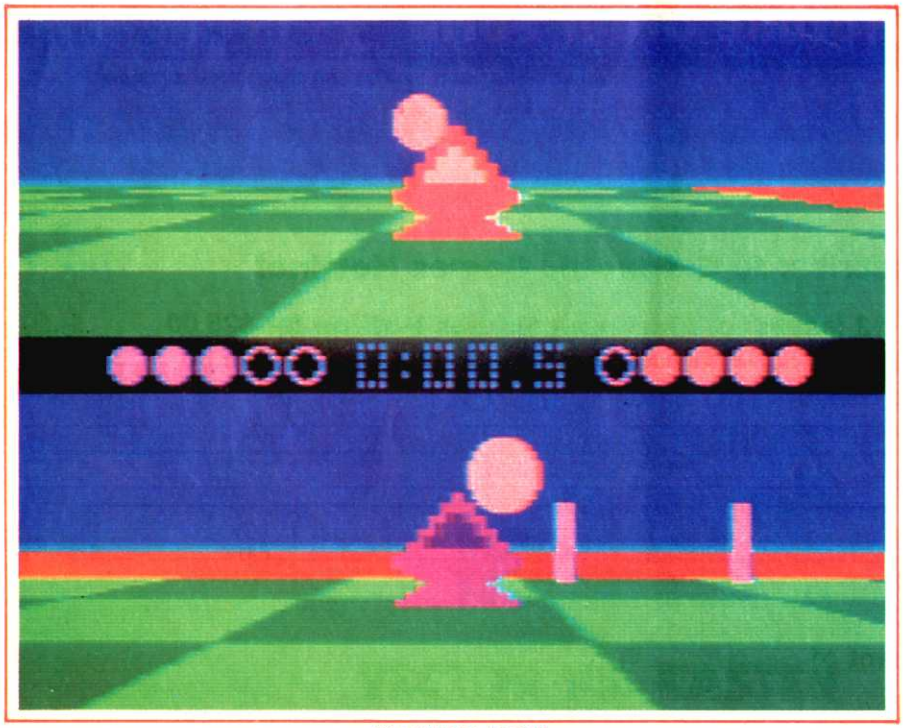
There's plenty to watch, too. The folks at Lucasfilm have invented a sport for tomorrow — and turned it into a rousing cartridge gamers can enjoy right now. Fortunately, *Ballblazer* has relatively few rules, so contestants can focus on whipping their rotofoils up and down the checkerboard playfield to capture the ball and push or blast it through the opponent's goal beams. The action is fluid and continuous, something like a mechanized version of soccer played at super speed. Pat Methany's percussive soundtrack works beautifully with the visuals to keep the feeling of excitement at fever pitch.

The cornerstone of *Ballblazer* is the rotofoil. Each side has such a one-person vehicle with which to catch, dribble and shoot the ball. Since the rotofoil faces this elusive sphere whenever it's up for grabs, players simply rush forward, using the joystick to steer, and try to capture it. Once a rotofoil has the ball — indicated to the other player by a glowing faceplate — the rotofoil immediately adjusts to face the enemy goal. The defender can then try to take away the ball by roaring up to the rival rotofoil and blasting the sphere loose by hitting the action button.

Carrying the ball through the uprights earns a point. A team can score one to three points by blasting the ball through instead, with the goal's value depending on the distance of the successful shot. An information line located between the halves of the split screen counts down the clock and logs the score of the match in progress. The time limit for each game can be set prior to the start of play using the function keys. It's possible to practice *Ballblazer* against an android foe, but the cartridge really flies highest as a two-player showdown.

Ballblazer is both a solid example of how fresh creative forces can invigorate game software and produce a professional programming triumph. Lucasfilm has avoided the seductive trap of piling complexity upon complexity and created a cartridge which looks and sounds great, plays smoothly and fills a significant gap in the electronic sports game category. *Ballblazer* is gaming at its finest.

(Arnie Katz)



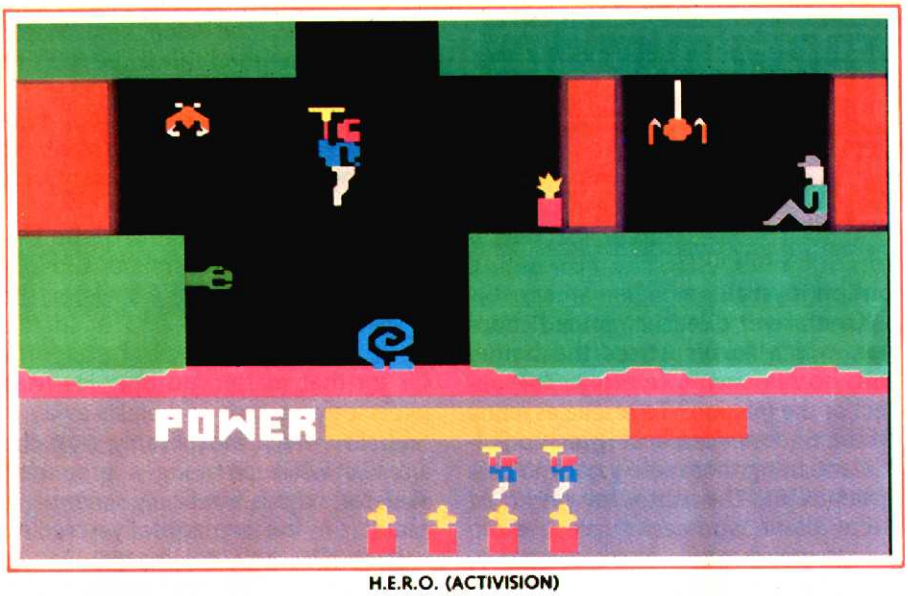
BALLBLAZER (ATARI)

H.E.R.O.

Activision/2600

Activision continues to stretch the limits of the Atari 2600. Its latest, **HERO,** is not quite on a par with **Pitfall II,** but it is a playable, graphically appealing action adventure that is good enough to plug in the 2600 adapter for — or even lug the VCS itself out of the closet.

The on screen character is an armed trouble-shooter with a jet-pack strapped to his backside. He zips quietly through a multi-colored, block-like maze which represents a mining tunnel deep beneath the planet's surface. There are miners trapped down there, gasping for air and energy, and what kind of Hero would let them perish?



H.E.R.O. (ACTIVISION)

He must avoid the "pitfalls" that infest this underground labyrinth and rescue the trapped, subterranean workers.

Along the way, there are clutching arms, invisible shaftways, boobytraps and your standard assortment of things that go boom! in the night. Hero, in turn, can fire a handgun at adversaries or plant one of his bombs in order to obliterate some annoying obstruction. But energy is running out, and it's only replenished when the next miner is saved!

This is a simple, but surprisingly endearing contest, which, despite its scaled down opticals, does not constantly remind the gamer that he's playing this one on a 2600. It's a good, solid videogame, one that would be a plus on any gaming system.

(Bill Kunkel)

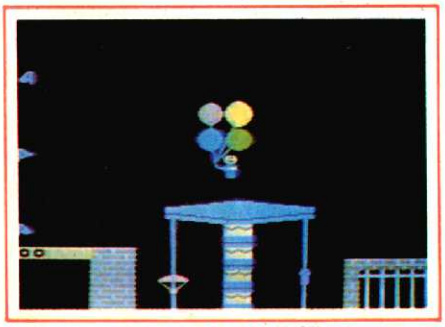
GUST BUSTER

Sunrise Software/ColecoVision

This solo flight over an amusement park obstacle course doesn't use the joystick in an orthodox manner. Pushing the controller in the appropriate direction selects one of four balloons which the vendor is clutching. Pushing the action button while moving the stick to the side releases air from the indicated balloon. Pushing the button while the stick rests at neutral pumps buoyancy into the balloon.

Adding and subtracting air from the balloons allows the vendor to change altitude. Windsocks posted at the extreme left of the multi-screen playfield indicate how the winds are going at each height. If the arcader wants the vendor to float to the East, he accomplishes this by causing the on-screen character to attain an altitude which is experiencing winds in the desired direction.

There's a constant need to change altitude to avoid obstacles like the fireworks display or the peanut-chucking elephant, and to take advantage of the bonuses for certain landings. Setting down in a crowd enables the vendor to sell balloons for bonus points, while a



GUST BUSTER (SUNRISE)

PROGRAMMABLE PARADE

rendezvous with a popcorn truck lets the balloon man restock. Touching down anywhere gives the character a chance to replace any balloons which have been punctured from the supply in his pocket.

Gust Buster is a genuinely unusual program, unlike any other action game available for this popular videogame system. Though its delicacy may be lost on the more brutish blast brigaders, this lighter-than-air romp is likely to please most home arcaders.

(Arnie Katz)

CHOPLIFTER!

Atari/Atari 5200

The division between computer games and their videogame cousins grows hazier every day. With Atari's release of Dan Gorlin's smash computer game **Choplifter!**, the line completely disappears.

The 5200 version is, in a word, sensational. Its excellent animation and graphics are reminiscent of the Atari computer cartridge, but the two-button action from the original Apple game has been restored, thanks (for once) to the 5200 controller's two-button joystick.

One player directs an armed chopper, which forays across the border into hostile enemy territory. The object of the mission? To rescue as many of the 64 American hostages as possible and bring them safely back to U.S. grounds. But the copter can only hold 16 at a time, and each successive trip brings new hazards to be overcome, like tanks, fighter planes, and smart bombs. 5200 fans, this one's for you!

(Tracie Forman)

HE-MAN & THE MASTERS OF THE UNIVERSE

Mattel/Intellivision

Who, you ask, is He-Man? Shame on you. He stars in his own TV cartoon show, wherein "he" and his assembled cronies, known collectively by the humble moniker, "Masters of the Universe", do battle with the minions of a skull-faced reprobate named Skeletor. The prize in this ongoing war between good and evil is Castle Greyskull, ancestral home of He-Man's secret identity, Adam.

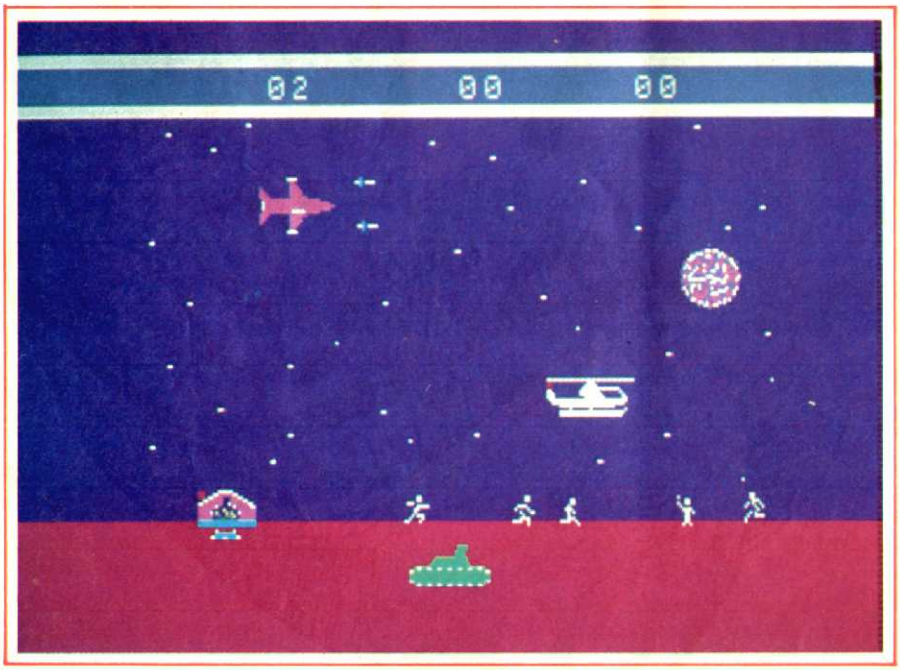
Now you know who He-Man is.

Unhappily, this knowledge has little impact on a player's enjoyment, or lack thereof, of the videogame. Mattel obviously intended this to be the first of a projected series of cartridges involving this cast of comic book-type characters, which will now never be published. Whatever the intent, the result is a virtual shambles.

He-Man & the Masters of the Universe is a prime example of a mindless license. He-Man and Skeletor, the only characters who appear in this contest, could just as well be anyone. Or for that matter, no one. He-Man pilots a flying craft and blasts away at fireballs, which inexplicably clog the airways while pursuing a grounded Skeletor, who is frantically scrambling about on the horizontally-scrolling surface. The object is for He-Man to drop a sort of Skeletor-catcher just in front of the bone-faced bad guy as many times as possible. Frankly, considering the fact that Skeletor is apparently unarmed and He-Man is packing both a laser and a flycatcher on board his flying gunboat, he emerges as something of a bully within this context. He-Man a *bully!?* Perish the thought!

The bottom line is that this game is boring. Within the first five minutes eyes begin to glaze over. I mean, once you've captured Skeletor fifty times, there's relatively little left to appeal to the sporting arcader. The visuals are nice enough, but not up to the "supergraphics" designation as "Super Graphics".

(Bill Kunkel)



CHOPLIFTER! (ATARI)

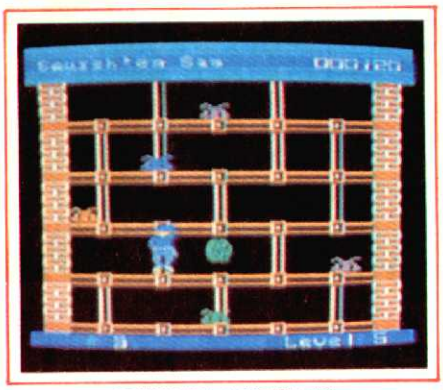
SQUISH 'EM STARRING SAM

Interphase/ColecoVision

Last year's multi-segment climbing game, published by Sirius Software for a selection of popular home computers, takes on fresh life in this cartridge from Canada's Interphase. By cleaning up the original program's few rough spots and augmenting audio with computer-generated speech, the publisher has made a good game even more appealing.

The on-screen protagonist is Sam, last seen patrolling the sewers in an earlier Interphase title. This time, he must climb to the top of a 48-story building to retrieve a satchel of cash. Creatures scuttle back and forth on just about every crossbeam, and touching one costs Sam one of the four "lives" with which he enters the action.

There are two methods for avoiding



SQUISH 'EM (INTERPHASE)

deadly contact with the creatures, both of which have the added advantage of scoring extra points. Sam can either use a combination of moving the joystick and hitting the action button to leap safely over a monster or he can jump right on the creature's head, temporarily immobilizing it. As Sam climbs higher and higher, the monsters get taller — and therefore, harder to leap — and become less vulnerable to stomping.

The voice, which doesn't require any attachments, is very intelligible. Though the comments Sam makes don't have any major bearing on the progress of the action, the phrases are well-chosen and are uttered at appropriate times. For instance, when Sam finds one of the special prizes which earns him an extra life, he shouts, "Wow!"

Squish 'Em is a fast-paced, fairly straightforward cartridge that holds up well under replay. Interphase has given new life to an unjustly overlooked electronic game.

(Arnie Katz)

PITFALL

Activision/Colecovision

Pitfall has assumed the position of Activision's flagship title, now produced for virtually every major videogame and computer system format. The standards for these translations have been uniformly high and the Colecovision version is no exception.

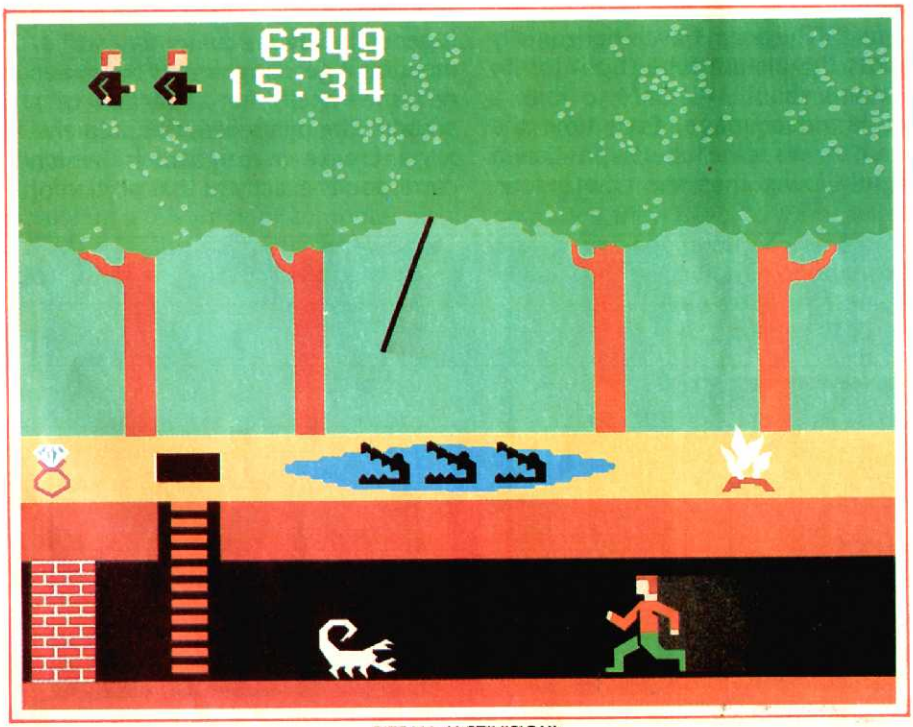
Gamers will instantly recognize the elements comprising this horizontally-scrolling adventure. Pitfall Harry moves over lakes, crocodile-infested waters, quicksand and a variety of similar deathtraps including snakes, fire and deadly scorpions. The object is to scarf up as much treasure as possible along the way.

Colecovision's *Pitfall* is remarkably similar to the traditonal graphic treatment seen on previous versions, and the joystick-manipulated action is quite crisp — cleaner than usual, in fact, for a contest on this system.

To clear the obstacles, Harry can jump past them, pass under them (by falling into a pit, though it costs him points) or swing over their heads with the help of his vine.

Sound effects are only minimal in this game, sounding much like the 2600 version, a bit disappointing considering the CV's potential.

(Will Richardson)



PITFALL (ACTIVISION)

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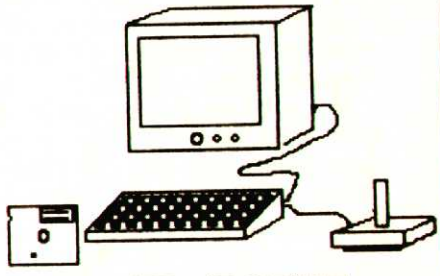

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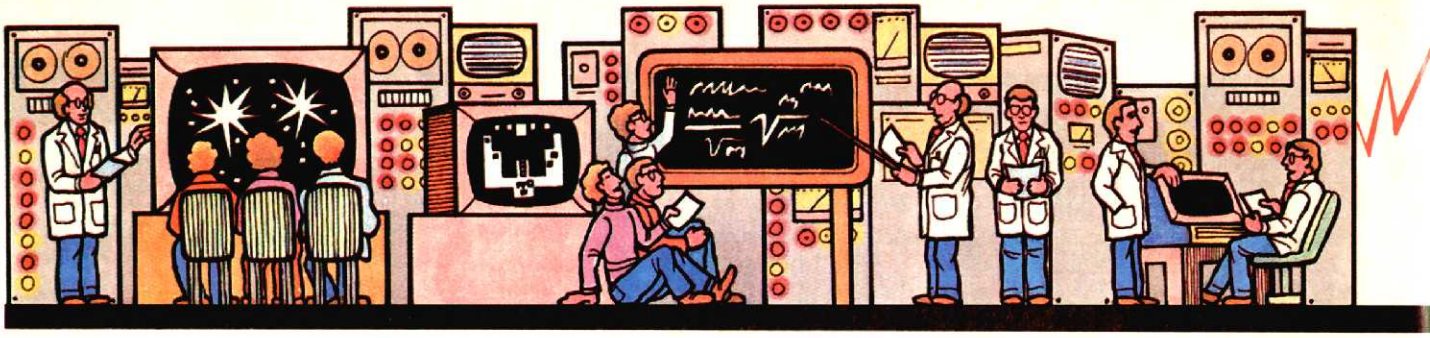


The Light (Pen) Fantastic!

Did you know that some disgruntled (and badly misinformed) customers have telephoned light pen manufacturers to complain that their pens were not lighting properly — even in a darkened room? Or that most people think the only thing a light pen can do is draw images on a computer screen?

These misunderstandings are a function of the product name itself or advertising that always shows someone drawing something on a screen. Regardless, we're going to set the record straight.

To begin, light pens don't emit light, they respond to light. The function of a light pen is to locate a position on a computer screen and inform the program when it's found. Light pens are entirely dependent on the quality of the programming that's driving them and are generally less forgiving of error than other forms of input hardware. They are among the most precise means of communicating with your computer yet developed.

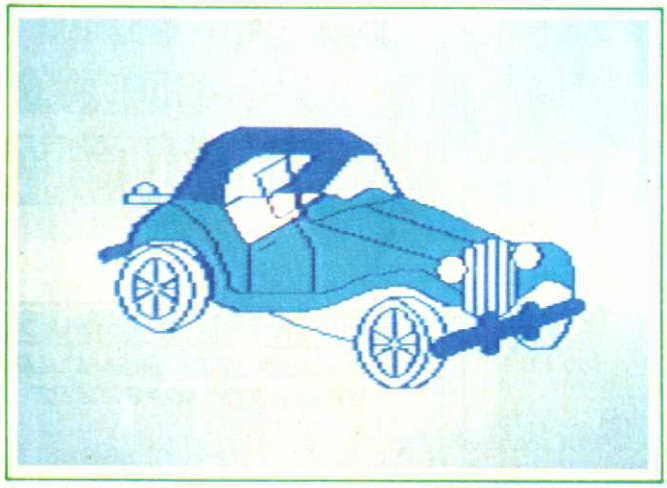
To understand how a light pen works and interacts with programming, you have to know a little about how an image is formed on your TV or monitor screen.

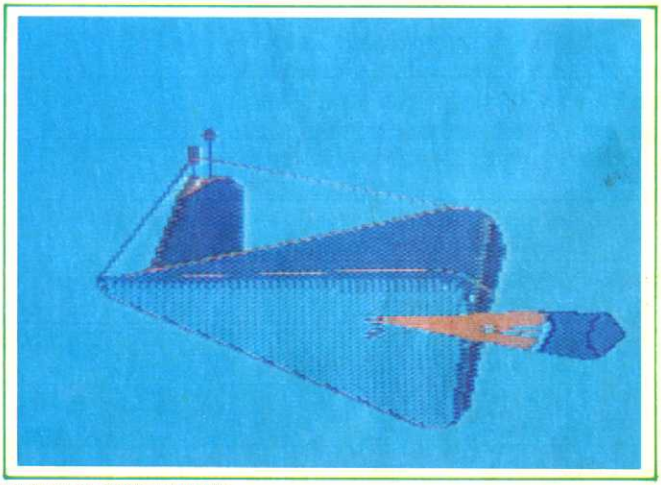
All "television" images are created by sweeping a high voltage beam behind the faceplate of a picture tube. (Note: solid-state image devices whether LCD or otherwise simulate this process — they don't actually perform it.) The beam travels horizontally across the picture tube (from top to bottom) about 340 times to form a single video image. Each time the beam traverses the tube it is positioned slightly lower than the time before. When all 340 lines are generated the screen blanks momentarily and the process begins again. As it travels the beam causes the phosphors that coat the inner surface of the tube to emit light and it is these glowing phosphors that you actually see. This is true whether the tube is monochrome (black and white) or color.

Of course, there is a great deal more to forming a picture on a computer or television screen than this, but knowing that the basic image is comprised of lines of glowing phosphors is critically important to the operation of light pen. A few more facts. Each complete image is flashed across the screen 30 times per second. RGB monitors paint their images one color at a time while composite monitors work the same way as standard televisions.

So what does all this mean?

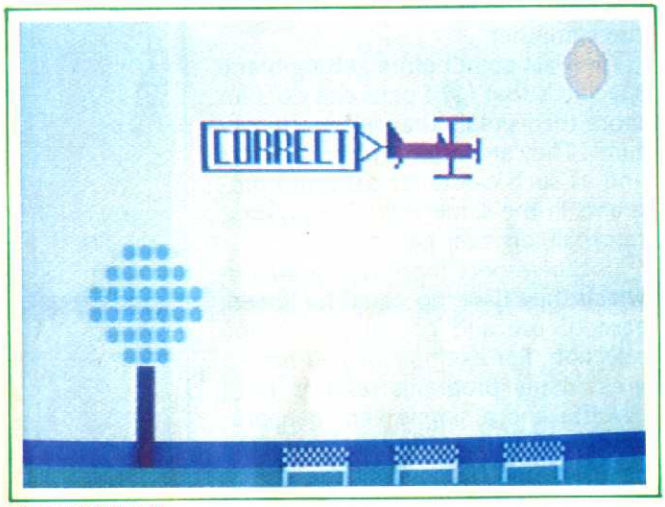
It helps explain how a light pen works. A light pen senses an increase in brightness on the computer screen. As each line that comprises the picture is generated by the computer and TV/monitor, it gets brighter (as the screen refreshes itself) for a fraction of a second. The pen senses this momentary increase in brightness, which corresponds exactly to that portion of





FROM CARS TO SUBS: DRAW YOUR OWN CONCLUSIONS

TEST LAB



TWO MORE EXAMPLES OF LIGHT PEN ART

the program which created the image, and signals the program. Because a light pen program is written to input the signal that comes from the pen, it can recognize the exact location of the tip of the pen. With that information the computer can mark a point on the screen from which to draw a line or character, etc., or a point to connect another point to, or an instruction. It all depends on the program.

If that was a little difficult to understand, lets just say that a light pen locates a position on the screen, and having found it, tells the program "I'm here!." It does so by sensing a change in the various light intensities that make up a television or computer image. Once the computer knows the position of the pen it can correlate the information back to the program and execute a command.

The plot thickens as we look at features that make one light pen a whole lot better and unfortunately, a great deal more expensive than another.

The overall sensitivity of a light pen to minute changes in light intensity is critical, but so, too, is its ability to reject unwanted light. There's a carefully designed balance of overall sensitivity, accuracy, and rejection. If a pen is too sensitive it can pick up ambient light (that is light that falls on the TV screen from sources around the room) or light from the wrong place on the picture tube. If a pen is not sensitive enough you may have to increase the brightness of the picture to uncomfortable levels.

For these reasons the photo sensor in the pen is placed behind a lens. A well-designed lens can focus a precise beam of light into the pen and when placed in a proper housing, reject light from unwanted sources.

The precision of computer grade light pens (some costing up to $400.00 or $500.00) differ from their home computer counterparts primarily in sensitivity and selectively. They are simply far more precise as are the computers they have to work with. Most home computers cannot produce a high resolution image (in the truest sense of the word), so a precision light pen is not needed. That is why a $30.00-$40.00 light pen will function well with a 19-inch color television, but might fall apart with an RGB monitor hooked up to a $3000.00 plus personal computer.

TECH SKETCH'S LIGHT PEN AT WORK

If you are interested in high precision work, don't even consider spending less than $100.00 for a light pen or you will be disappointed. Another critical factor is response time. If the pen is too slow you'll have to wait for the system to respond. Here we are talking about fractions of a second, but then add up quickly when working with a light pen. A half-second lapse is an eternity when you expect an immediate response and will quickly fatigue a user if it happens over and over again. Light pen response time is measured in nanoseconds (a common scientific term referring to billionths of a second) and a precision computer grade pen should respond within 300-500 nanoseconds, while a pen designed for home use should respond within 500-700 nanoseconds. One important factor to keep in mind is that the software has to be up to the level of the hardware. Some delays experienced in using light pens have not been the fault of the pen or computer but have been caused by the program itself. A program written in BASIC takes a long time to accept input and react to it. Or a program that has to

TEST LAB

manage a great deal of overhead — screen images, lots of data and calculations, etc. may only be able to read the light pen port once or twice a second. In that case your input simply has to wait on line for its turn to enter the computer.

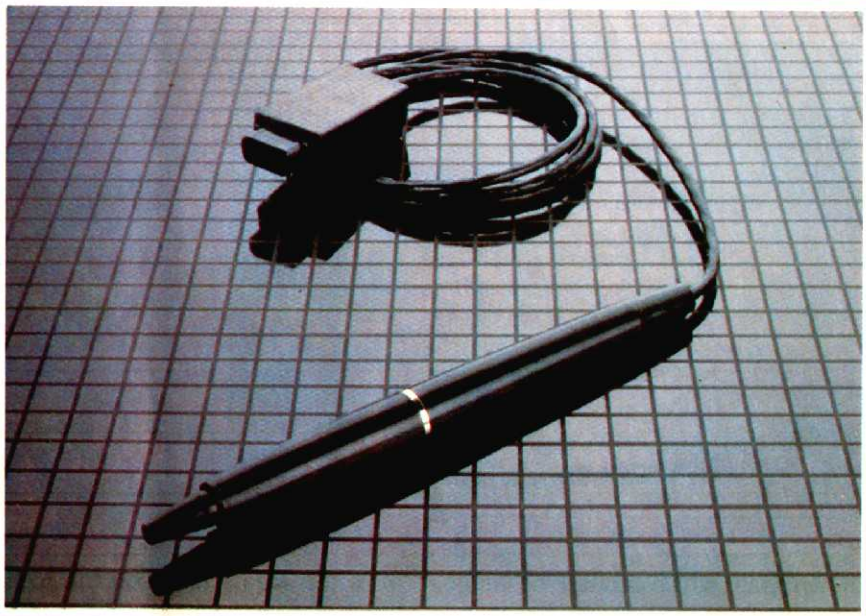
One last point before getting brand specific is that light pens can do a lot more than simply drawing pretty pictures. They are, after all, input devices and as such can enter data into programs in the same way as a joystick, trackball, digitizer pad etc.

In this respect there is one area in which they have no equal for speed, ease of use and accuracy — menu selection. For example, if you have a great many programs residing on a diskette and a simple light pen program you can boot the disk, look at the directory and by pointing the pen at the screen, touch the button and enter your program selection instantly.

For the past six months we have been using and evaluating light pens manufactured by Tech-Sketch. When we looked for a pen to use with the ultimate computer game station (see EG January, 1984) EG selected the LP-15, list priced at $115.00 as the best overall value. This unit is now furnished with Micro-Illustrator, the same program that made the Koala Pad a household word. This pen, by the way is similar to — and based on — the design of the company's $400-plus industrial light pens. We continue to recommend this unit without reservations, however it is a costly, precision instrument. Perhaps a good second choice would be the LP-10 at $39.95 which is both serviceable, sturdier than most others and extremely well made. If you opt for this model you must purchase the Micro-Illustrator program separately, although the pen comes with a simple drawing program called Paint-N-Sketch 1. It, and its brethren from other manufacturers, is simply not in the same league as the LP-15.

Currently, the LP-15 comes with a small push-button switch but a tip-switch version may become available if consumers demand it. With a tip switch, you simply push the pen at the picture tube and contact is made. It's a nice touch for some applications. Light pens aren't for everyone but they are fun to use, make drawing easier than anything but a $600.00 plus digitizer pad, and have no equal for menu selection. At the least we would recommend every reader try one, or buy an inexpensive unit with which to experiment with.

ATARI'S LIGHT PEN



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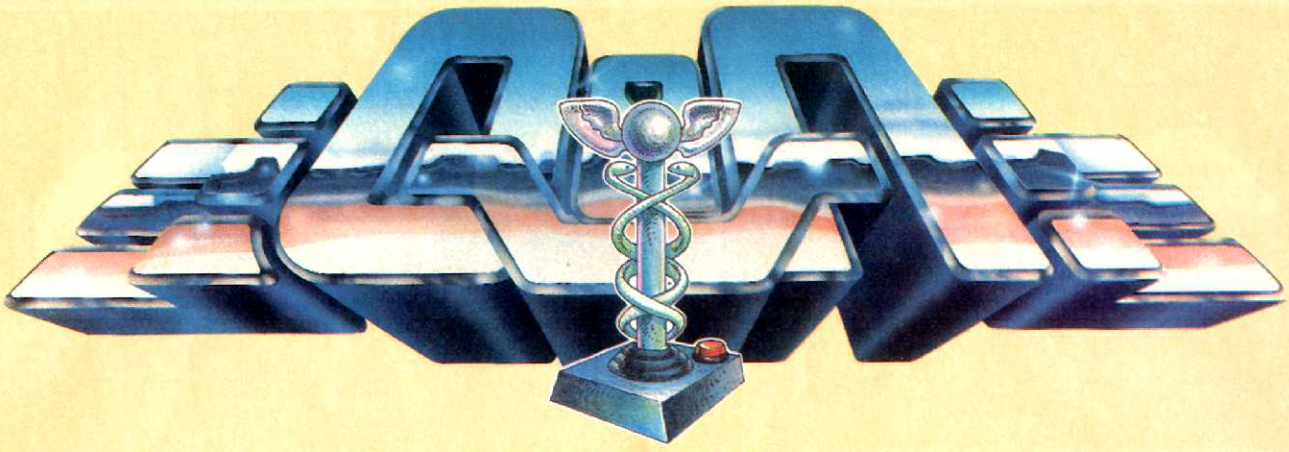

By THE GAME DOCTOR

The Doc Examines Your Questions

We Gods and little joysticks, but we have got a ton of questions this time out! Therefore, I suppose it behooves me to forgo my usual urbane introductory chitchat and move right to the torrent of queries. . .

Q: *If the Atari 5200 has about 16K and the Colecovision has 24 to 32K, how can the 5200 produce equal quality graphics? Also, why has Atari begun marketing the 600XL and the 800XL?* *(Todd Havens, Dayton, OH)*

A: First off, Todd, memory alone does not single-handedly determine the quality of a system's graphics. The 5200 and Colecovision, for example, employ a different "sprite" system, which means that they go about rendering images in different ways. Examine **Centipede** for the 5200 and then look over the Atarisoft version for the CV. Both look beautiful, but quite different, with the characters being drawn much larger, for example, on the CV.

Regarding the computer line, Atari is offering both a 600 and 800XL for the same reason it originally turned out a 400 and 800 computer. The 600XL has less resident memory, but is also less expensive. This is known as marketing items at a variety of "price points", so that, no matter that your financial status, there should be a machine available to you. It's not unlike walking into a supermarket and seeing three different sized boxes of Cheerios. They all have the same cereal inside, only the amount — and the price, of course — differs.

Q: *Can Atari's joysticks hurt Coleco's system or software?*
(Claude Richards, Dale City, VA)

A: No. (Getting succinct, aren't we?)

Q: *How can software companies such as Sega, Parker Bros., etc. always produce the Intellivision version of their game last? In fact, it seems as if many companies are no longer even producing an Intellivision format version — how come?*
(Jim Green, Dalton, MA)

A: With some exceptions (before closing down their Intellivision Division, Activision produced games for that system independently), software companies will always make their Intellivision version of any game after turning out the 2600, 5200, Colecovision, Atari computer, and

ATARI 600XL

INTELLIVISION II (MATTEL)

Commodore-64 models. The reason: simple economics. There are fewer active Intellivision owners (that is, the folks who are still picking up software for their system on a regular basis and who have not consigned it to a dusty shelf in a closet somewhere) than there are for these other systems and, therefore, there is less money to be made from it. A quick look at all the retail outlets carrying Intellivision software marked down to $5 from $30-$40 a year ago tells the tale more eloquently than any words.

Q: *While shopping for videogames recently, my wife and I found the GCE Vectrex videogame system selling for only $49.99 and all its videogames retailing from $6.97 to 9.97. Is Vectrex going out of business?*

(Thomas F. Kukla, Mikado, MI)

A: Sad to say, Thomas, but the Vectrex has indeed gone the way of all silicon. See EG's "Bargain-Hunter's Guide to the Vectrex" elsewhere in this issue for further information.

Q: *What is your opinion of the Adam's Data Storage Drive? Mine seems awfully slow. Also, will Coleco ever produce a floppy disc drive?*

(David Lenske, Phoenix, AZ)

A: I think the Adam DSD is slow as sin, frankly, and so, it would seem, does Coleco. Witness their announcement — right on the heels of Adam's appearance as a supposedly "complete, bundled" system — that a floppy drive is forthcoming. This has several unpleasant implications, especially for owners of the existing drive. Retailers, for example, will now be expected to carry Adam software in cartridge, disc *and* DSD formats. Considering the bulky size and considerable loading problems associated with the DSD, it seems likely that both software producers and stores will begin shying away from programs in that medium, especially in lieu of the forthcoming floppy discs.

Q: *Recently I saw a very peculiar cartridge for the Atari 2600. It was marked "Pitfall/Super Invaders" and had a switch to toggle back and forth between the two programs. Test playing showed* **Pitfall** *to be just that, while "Super Invaders" was, in fact,* **Space Invaders.** *Could you please tell me if this was being made and/or sold legally?*

(name uncertain, Singapore)

A: Not being intimately familiar with the nuances of the foreign market, I hesitate to come right out and condemn this as a rip-off, but it sure smells like a "boot" to this old nose. Unless the packaging and cartridge casing contain the appropriate copyright information et al (especially so, as these two games are produced by different companies, Activision and Atari, respectively) games sold in this format are almost always bootlegs.

Q: *I'm an owner of an Atari 2600 (but then again, who isn't?). I'm constantly hearing about the voice synthesis module and keyboard peripheral Atari planned to release. Then, about a month ago, I read that Atari plans to ditch these two products. What's the scoop?*

(Steve Romano, New Castle, PA)

A: The scoop is, indeed, the ditching of all 2600 peripherals. Atari finally concluded that the 2600 is, first, last and always, a game machine. Putting a keyboard and other minor league-level peripherals on it is awkward, since you can buy a real computer for little more than the cost of a VCS!

Q&A QUICKIES: For all those readers who have written in wondering where they can go in order to sell their various software programs, have I got a book for you! The Software Author's Guide, subtitled "A Comprehensive Guide to Microcomputer Software Publishers" by Mildred A. Heiney, from Datamost, is a marvelous book containing alphabetical listings of the major publishers in the field. In addition to the plethora of data on each company, there are several excellent introductory chapters that deal with the marketing of software by the neophyte programmer. . .Several readers have also written in regarding our "5200 vs Colecovision" piece of several issues ago, wondering exactly which model 5200 they own. There's a very simple way to tell: if your 5200 runs off a power source extending from the RF box connected to the back of your television set, or has four joystick ports, you've got an old model system and it will require a service stop before it can use the 2600 interface. . . By way of correction, we were incorrect when we referred to **Dragon's Lair** as the first commercial coin-op to employ videodisc technology. There is actually a horse racing game using that system and it's been around Las Vegas lobbies since before DL. Sorry about that, folks. . .Many readers have asked us our opinion of the new Atari 800XL, and though our own models aren't expected for another week, the ones we have tested, albeit briefly, look fantastic! None of the compatibility problems of the 1200XL (now, thank God, discontinued) and a marvelous keyboard. . .

Well, that about wraps things up for this edition of Q&A, but we'll be back next issue, as always, same bat time, same bat magazine. Aloha. . .

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FAREWELL TO THE VECTREX

The King of Stand-Alones Has Abdicated, But Vectrex Is Still Wowing Gamers

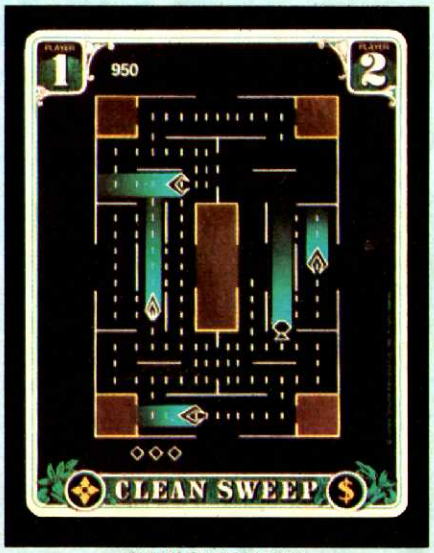
MINE STORM (GCE)

By JOYCE WORLEY

The buying frenzy is in full swing. Ever since Milton Bradley folded its Vectrex operation earlier this year, bargain-hunting gamers have been rushing to stores to pick up what some have called "The King of the Stand-Alones" at a fraction of the original cost.

Are the thousands of new Vectrex owners getting a premium-quality system at a rock-bottom price, or are they just throwing away good money on a gaming machine that's only fit for a spot at the back of the closet? That's a decision each individual consumer will have to make, but, at least on the surface, this portable home arcade looks like a good value.

Certainly, critics have unabashedly praised the Vectrex since General Consumer Electronics unveiled it in



CLEAN SWEEP (GCE)

ARMOR ATTACK (GCE)

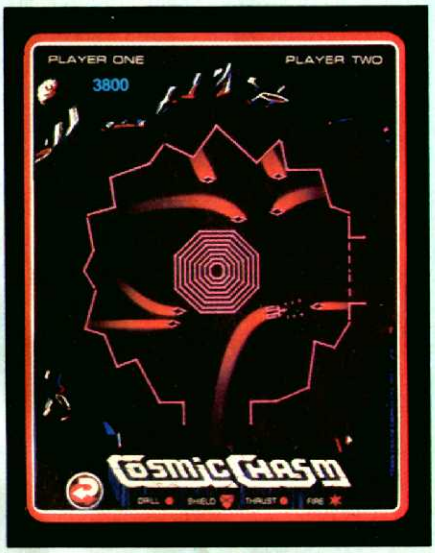
BEDLAM (GCE)

SCRAMBLE (GCE)

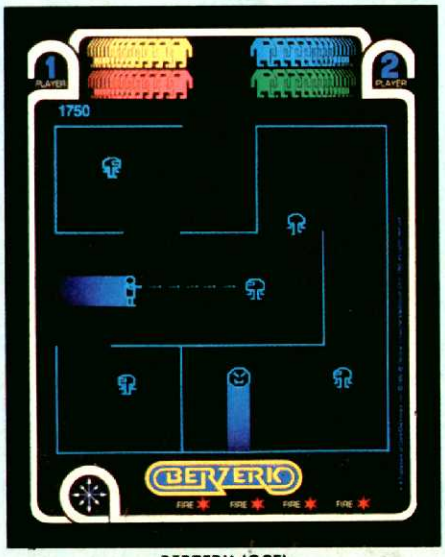
1982. The introduction caused quite a stir at the time, too. No one expected GCE, which had made its reputation with game watches and calculators, to bring forth a programmable cartridge device built around a black and white vector graphics monitor. Its revolutionary design promised to help gamers sever the umbilical cord tying them to the family television set.

Like other programmables, software for the Vectrex is encoded on cartridges. These plug into a slot on the right side of the unit. Each game comes with a specially-designed overlay which fits into holders around the edge of the screen and adds static playfield elements or a dash of color.

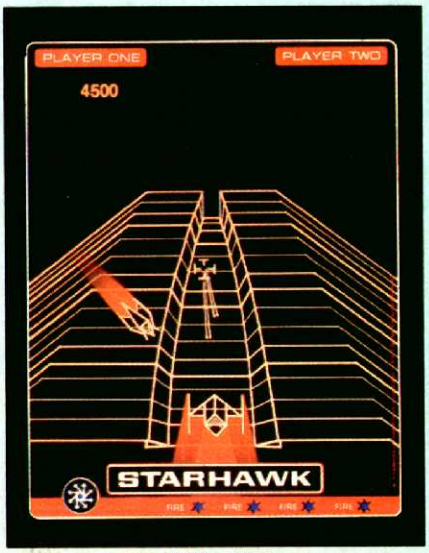
The Vectrex panel controller is a sturdy unit with a miniature joystick and four buttons that control all the action. The stick is exceptionally sensitive, and moves objects around on screen at arcade-game speeds, while



COSMIC CHASM (GCE)



BERZERK (GCE)



STARHAWK (GCE)

the buttons are used in different combinations to handle player commands.

When the designers created the handsome, lightweight portable machine, they didn't stint on audio. The Vectrex can fill a room with the beeps and boops of high-powered arcade-action games, yet the sound level can be reduced or eliminated altogether when silence is required.

Milton Bradley Company, eager to enter the booming videogame business, purchased General Consumer Electronics so that they could obtain the Vectrex. But by the time the larger corporation was ready to begin national distribution of their acquisition, the price plunges of 1983 had begun, so M.B. hacked the cost of the Vectrex from its original selling point of $200, first to $150 and finally to $100. According to M.B. spokesmen, the company couldn't afford to chop the tag further because of the high cost of manufacturing the unit, yet the volume of sales needed to make the Vectrex profitable at the $100 price point never materialized. Finally, after reporting losses of over $31.6 million on the Vectrex, Milton Bradley Company discontinued manufacturing the videogame system.

Yet, consumer interest in the Vectrex continues unabated even now. In fact, this year has proved to be a bonanza for buyers, who flocked to the stores after M.B. announced Vectrex's discontinuance to clean out inventories being sold at distress prices. In most areas of the country, the console is remaindered for around $50, while the game cartridges are moving at $5-$10 "as fast as we can wrap them up", according to one retailer.

The attraction of the Vectrex is two-fold. First, the lightweight unit is a good traveler, so works well as the family's "second" videogame unit to take on vacations, install in boats and trailers, or send to college with Junior, Second, the self-contained vector-scan monitor forever ends those arguments over who is going to use the family TV set.

But the best thing about the Vectrex is undeniably the games. Brilliantly illuminated, the fine-line drawings pop into life, then create movement and action with a high degree of urgency like the coin-op titles on which many of the cartridges are based. The resident game is **Mine Storm**, an **Asteroids**-style title that casts the arcader as captain of a starship which must destroy mines scattered in the space lanes. It's a high energy one- or two-player contest that's so good most gamers would want to buy it separately if it didn't come with the system.

New Vectrex games kept coming right up until the end — roughly two dozen titles in all. In mid-1983, the Vectrex light pen was introduced along with software, and later that year the Vectrex 3-D Imager added color and made the vector-scan graphics jump right off the screen. Other games made use of the sound-generating capabilities of the Vectrex to put voices right in the cartridge, without need for any additional equipment.

Even now, after the company has closed its book forever on the Vectrex experience, some count the game system one of the best videogame machines ever devised. It's one of the true classics of electronic gaming that deserves to be remembered.

VECTREX

A GUIDE FOR VECTREX TREASURE-HUNTERS

Here is a list of the game titles available at the time Milton Bradley halted the Vectrex operation, according to a spokesman from that company. These, along with the game console, will continue to be marketed until supplies are depleted; then no more will be manufactured.

Vectrex cartridges that were distributed nationally include: Armor Attack, Bedlam, Berzerk, Blitz, Clean Sweep, Cosmic Chasm, Fortress of Narzod, Heads Up Soccer, Hyperchase, Pole Position, Polar Rescue, Rip Off, Scramble, Solar Quest, Space Wars, Spike, Spinball, Star Castle, Star Hawk, Star Trek and Web Wars.

The Vectrex Light Pen comes packed with "Art Master". Other pen-using programs that may be found are "Melody Master" and "Animaction."

The Vectrex 3-D Imager may be harder to locate, since it only received limited distribution. It features 3-D goggles that make the images burst out of the screen in exciting and vibrant colors. Additional games that use the Imager are "Narrow Escape" and "Crazy Coaster."

Happy hunting!

BLITZ! (GCE)

HYPERCHASE (GCE)

SPIKE (GCE)

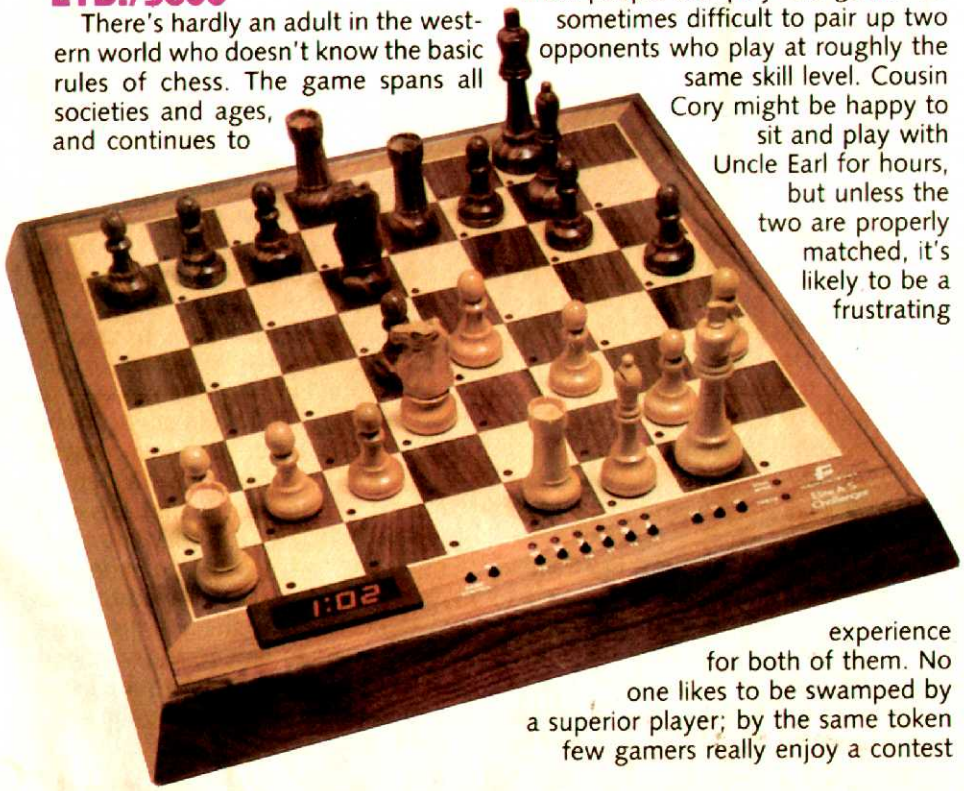
By JOYCE WORLEY

Board Games Go Space-Age For The Whole Family

When manufacturers marry computer-based stand-alones with traditional board game challenges, it can result in some of the best diversions the electronic world has to offer. This month we're looking at two examples, one a family amusement inspired by arcades, and the other the world's most popular board game, updated and made more convenient through electronics. Whether you're hunting for a new entertainment for the whole family, or a highly skilled opponent for a chess-champion, one of these beauties will surely fill the bill!

ELITE A/S CHALLENGER FIDELITY ELECTRONICS, LTD./$600

There's hardly an adult in the western world who doesn't know the basic rules of chess. The game spans all societies and ages, and continues to dominate the lists as the world's most loved strategy contest. Yet, although most people can play the game, it's sometimes difficult to pair up two opponents who play at roughly the same skill level. Cousin Cory might be happy to sit and play with Uncle Earl for hours, but unless the two are properly matched, it's likely to be a frustrating experience for both of them. No one likes to be swamped by a superior player; by the same token few gamers really enjoy a contest when the opposition is too weak to make it sportive.



Quick to recognize the need for skill-matched opponents, the manufacturers of stand-alone chess games have done remarkable work in the last decade to bring this ancient game into the computer age. Today, the Fidelity Electronics Elite A/S Challenger ranks among the top electronic computer opponents in the world. In fact, the unit was declared the World Champion at the Budapest, Hungary tournament in 1983, as the best computerized chess player in that competition.

The Elite features a full-size, handcrafted nutwood-framed board with inlaid top. The playing pieces are solid wood, with the king measuring almost four inches. The unit is 100% solid state, with 1/2 in. LED display. It has full voice capability, and announces each move in sonorous mechanical tones. It's a beautiful set-up that will grace any parlor, den or study, to provide a lifetime of service for any chess lover.

The Elite has fifteen skill levels, so

whether you're just learning the game or a highly-ranked chess master, it'll give you a rousing good game. At the easiest setting, the Elite only thinks about its move for an average of about five seconds. Level eight has an average response time of six minutes per move. It's even possible to turn off the computer's brain, so that it can't think on your playing time; this produces eight more intermediate playing levels. The next skill levels are special settings that allow the user to select the time controls, either for individual moves, a specified number of moves, or for the entire game.

The unit can display the move it's considering, how deeply it's searching for its next gambit, and the score. It suggests plays for the human opponent, then even unveils the anticipated line of play if you accept its suggestion. And if you change your mind, you can take back the last move; in fact, by backtracking, it's possible to take back an entire game, move by move.

The Elite solves the Mate-In-Seven, captures en passant, announces stalemates and draws by the 50-move rule, and draws by three-fold repetition. It promotes pawns to all legal pieces, and is capable of considering these promotions when thinking about its moves.

The LED display has a great many functions. It acts as a built-in chess clock, times the thinking period, counts moves, and communicates roughly a dozen different messages to the gamer, from mate announcement, time overlap, move setting, search depth, to illegal move and positional score.

When the unit is first turned on, it announces, "I am Fidelity's Chess Challenger, your computer opponent." The voice can be shut off if the gamer doesn't want to hear the computer announce each move, and musical tones will signal every action. Or, of course, the tones can also be shut down if the player desires silence. In fact, there's a variety of settings that allow the voice with or without the tones, at full or limited vocabulary, with both the tones and the voice set low or soft individually.

It couldn't be simpler to play the game. The chess board has an automatic response playing surface made up of switches which are activated by the magnets located in the base of each chess piece. The switches read the magnets to determine what piece is being moved. LEDs light in the to and from squares, to indicate that the computer has entered the move; the Elite also announces the move verbally. Then the Elite announces its own move verbally, while flashing LEDs on the to and from squares. Make the indicated move and the sensory board registers it by reading the magnetized pieces.

The Elite uses the squares of the board and control keys to access multiple functions and options. It's a simple procedure of pressing the desired square with a chess piece for the settings desired.

It works with an optional chess printer, and can be set by the manufacturer for voice cabability in English, German, French or Spanish. It can even be made bi-lingual for multinational contests.

The Elite A/S Challenger is officially rated between 1950 and 2000 playing under tournament conditions with three-minute-per-move time limit. It also works with plug-in modules which are available at prices ranging from $78 to $120, covering various subjects, such as the Great Games Module (historical matches), or the Tarrasch Defense (opening and midgames dealing with the Queen's Gambit), Blitz Chess, Theoretical Chess Endings, and other helpful modules for the serious chess student.

At $600, this obviously isn't for everyone. But for the serious chessist, the Elite A/S Challenger is an investment that will bring a lifetime of satisfaction. It offers virtually every option and feature that technology has been able to devise. And if that isn't enough to impress you, the good looks of the unit are sure to cinch the deal, it's that pretty!

ELITE A/S CHALLENGER - HOW IT PLAYS

The Elite comes with its own transformer that uses house current. Place all chess pieces in their starting positions, then connect the transformer. Press (1) Game Control, (2) use a chess piece to press square D8, and (3) press Clear. The unit is now ready to play and will announce, "I am Fidelity's Chess Challenger, your computer opponent." To enter moves, just pick up a piece and move it to the desired square. The Elite will detect the move, announce it in words, then signal its own moves with flashing LEDs and vocal confirmation.

A variety of controls, as explained in the owner's manual, allow the chessist to set the game for skill levels or different playing modes as desired.

ARCADE MANIA

Milton Bradley/$29.99

Gather the family around the kitchen table and get set for some high-tech fun with Milton Bradley's **Arcade Mania.** This three- or four-person luck-skill-strategy contest brings the thrill of arcade action to a unique board game.

Milton Bradley visited an amusement palace for inspiration for *Arcade Mania.* The game combines the fun of high-skill action contests with a colorful boardgame the entire family will enjoy. But there's more to *Arcade Mania* than just a test of hand-eye coordination. The gamer must use strategy and planning in order to end up with the most chips when the game is over.

Arcade Mania features, in addition to the brightly colored board, an electronic arcade machine for playing out the contests. The machine holds four different games, each with its own overlay that slides into the unit to provide the particulars for that challenge. Each player champions one game, and must defend against the other participants in each face-off.

Gamers move around the board as directed by the roll of dice, then perform the tasks described on the board. If the board directs the player to challenge the champion of one of the four games, then the two must duel on the appropriate contest, while the other players make bets on the outcome of the competition.

Event Cards introduce a random note. They may tell the gamer to collect extra tokens from the bank, or to double all bets, or to add points to the player's score. There are even cards to cancel the loss if you lose a bet, or (trickiest of all) a card that lets you force the opponent to play the challenge match with only one hand.

Every contest can be played at three skill levels. Some of the board squares direct gamers to defend at a specified skill level; other contests require gamers to roll a die to determine the difficulty setting.

When the bets are placed and the skill levels set, it's time to begin the challenge. Whoever gets the highest score wins the round and gets chips from the bank to reward his victory. Then the observers reveal their bets. Winners collect what's due from the bank, and losers pay the bank what they wagered. The game continues in this fashion until one player reaches the finish line and collects 10 chips for being first. Then the gamers all count up to see who has won the game by accumulating the most chips.

The four electronic contests are relatively simple, so even a novice gamer can do well after only a little practice. **Alien Raiders** makes the gamer defend against cosmic invaders. A light appears behind an alien, and the gamer must push the corresponding control panel button to destroy that creature, then a new alien appears.

Rattler sends a three-light snake slithering around the screen. The serpent's tail flashes, and the gamer must zap it by pressing the control panel button corresponding to the blinking light's location on screen.

Sneak Attack requires some instant analysis on the part of the gamer. Missiles streak about the board and must be destroyed while in flight. The machine lights up two squares to show the direction the missile is headed in. Then the gamer has to zap the missile by anticipating where it will hit, and press the button that corresponds to that spot before the third light turns on.

The last contest is **Run Amuk.** A hungry monster, represented by one blinking light, chases the unblinking light across the screen. The gamer must press any button other than the one corresponding to the monster's location, in order to escape to a new position.

The four contests are easy enough that parents shouldn't feel too disadvantaged, yet fast enough so that younger players should be able to work up a good head of steam, particularly at upper skill levels. Each contest speeds up as the game continues, getting more challenging the longer the game stays in play.

When each contest ends, all the lights turn off, then the score is indicated by a flashing of one or more numbered lights. The score is the total of the numbered lights that are lit on the console.

Arcade Mania may never replace Monopoly as America's favorite boardgame. But it is a bright diversion that can provide hours of fun for a family. The arcade-style contests are certain to be real kid-pleasers, and the strategy involved in betting on the outcome of the competitions is absorbing enough to keep their parents involved. Best of all, there are no sure things in *Arcade Mania*. Sister Sue may be quick on the trigger, and Brother Bob may be an arcade ace — skills that will help them both. But what wins this game is the strategy used in placing bets, so Mom and Pop can give the kids a run for the chips, even if they're less talented in the action portion of the game. G

ARCADE MANIA

HOW IT PLAYS:

Players select which game they'll control, then roll dice to move their pawns around the board. When landing on a space that directs you to a duel, slide the appropriate game overlay into the mini-arcade machine. The non-dueling players then place bets on the outcome, and the combatants select skill level 1, 2 or 3, then push the appropriate game button on the control panel. The challenger plays first, and passes the console to his opponent to verify the score. Then the defender plays his round. Play continues in sequence, until the first person crosses the finish line. All players then tally their chips, and the person who has accumulated the most booty wins the game.

Coming Attractions

EG celebrates its return to regular monthly publication with one of the hottest batches of articles and features we've ever offered.

THE 1985 ARCADE AWARD NOMINEES

Read all about this year's best computer games, videogames, coin-ops and stand-alones. Then fill out the ballot and vote for your favorites in the gaming world's answer to the Oscars and Emmys.

EG'S FOURTH ANNUAL ELECTRONIC GAMING PREVIEW

The fourth quarter of the calendar year is always a high spot for games. That's when most of the new hardware and software first comes on the market. This exclusive EG report covers all the great games and systems we'll be enjoying this coming winter.

THE PLAYERS GUIDE TO FANTASY GAMES

Magic, monsters and marvelous treasures await in the realms of fantasy any gamer can reach through the magic window of the home computer. Our magazine-within-a-magazine is a treasure map to the riches of adventure, strategy and action fantasy contests!

THE GREAT GAME DESIGN TALENT HUNT

Wooing, winning and keeping the right designers is a major part of the battle for any company hoping to succeed in the highly competitive computer and videogame market. Here's the inside story of how publishers grab and hold the top talent.

There'll be plenty of other exciting articles and features of interest to arcaders, plus these regular columns:

- ★ Passport to Adventure
- ★ Q&A
- ★ Inside Gaming
- ★ Arcade America
- ★ Computer Gaming
- ★ Programmable Parade
- ★ Switch On!
- ★ New Products
- ★ Test Lab
- ★ Readers Replay
- ★ EG Hotline
- ★ Games Library
- ★ Stand-Alone Scene
- ★ Mini-Arcade Gallery
- ★ In Control
- ★ Strategy Session
- ★ Insert Coin Here
- ★ Articles of War

Looking for Electronic Games?

If you have trouble finding ELECTRONIC GAMES at your local newsstand or want to know where to send a friend to pick up a copy, the following will help. It's a list of retail stores across the country that carry ELECTRONIC GAMES every month.

ALABAMA
Video Box Office, Birmingham

ALASKA
Byte Store, Juneau

ARIZONA
CG Appliance TV & Video, Casa Grande
Hollywood Connection, Phoenix

ARKANSAS
National Video #04001, North Little Rock
Pine Bluff Video, Pine Bluff

CALIFORNIA
Video Station, Alameda
Video Cross Roads, Anaheim
C & W Video, Carmarillo
Video Connection, Citrus Hts.
Video Station, El Monte
The Works, Eureka
Coast Video, Fountain Valley
Video Station, Fremont
Video To Go, Gardena
Hip Pocket Book Store, Garden Grove
Happy Home Merchandiser, Granada Hills
Picture Show, Huntington Beach
Video Station, Laguna Hills
Back Stage Video, Long Beach
KK Sight & Sound, Los Angeles
Pirates Cove, Monterey Park
20th Century Video, Newark
Video Plus, Novato
Electronic Games, Orange
Sound Machine, Orange
Software Central, Pasadena
In Home Video, Riverside
Video Station, Rowland Hts.
Video Games N Gadgets, Sacramento
Videoland, San Francisco
Games Gags Gifts, Tahoe City
Video Etc., West Covina

COLORADO
Sweet's Tapes & Records, Aruada
American Home Theater, Colorado Springs
Guys N Dolls Video, Denver
Program Store #7806, Littleton

CONNECTICUT
Video Connection, Bridgeport
Video Studio II, East Winsor
Video Connection, Fairfield
Nostalgia World, North Haven

DELAWARE
Video Station, Wilmington

FLORIDA
Electronics Depot Inc., Alamonte Springs
Peace Chief Sound Center, Bradenton
Fort Myers Video Movie Center, Fort Myers
Computer Image Software Centre, Miami
The Crossings Video Shop Inc., Miami
Jeff Vid Inc./DBA Video Club Center, Miami
Orange Blossom Hobbies, Miami
PSL Electronics Inc., Miami
Video Trends, Winter Haven

GEORGIA
All Star Electronics, Atlanta
Video Connection, Marietta

HAWAII
Data I Microcomputers, Honolulu

IDAHO
Mountain Video, Black Foot

ILLINOIS
BAC Video Saw Mart, Belleville
Devon Hobbymodels Inc., Chicago
TV Repair, Chicago
Video Tape Gallery, Chicago
Videocourt, Cicero
Glenwood Distributors, Collinsville
Software N Stuff, Collinsville
Countryside Home Video, Countryside
Electronic Playground, Decatur
Video Dimensions, Des Plaines
Video Show, Des Plaines
Video Comp. Inc., Evanston
Circle Communications, Forest Park
Video Basics Inc., Joliet
Kenilworth Video, Kenilworth
Video Rangers Inc., Morton Grove
RJ Hobby & Electronic Center, Murphysboro
Classic Video, Oak Lawn
Sound Warehouse, Oak Lawn
New World Games, Rockford
Video To You Inc., Shaumburg
Toytown, Springfield
Video Hotline, Winnetka
Pace Micro Software, Wooddale

INDIANA
World of Video, Indianapolis
Video World, Kokomo
Video Place, Merrillville
Video Exchange, Mishawaka

IOWA
Video Island Ltd., Davenport

KANSAS
Hollywood At Home, Overland Park

KENTUCKY
Videovisions, Louisville

LOUISIANA
Ann's Video Junction, Slidell

MAINE
Sound Track, Sanford

MARYLAND
Video Connection, Beltsville
Video Connection, Bowie
Clinton Video Ctr., Clinton
Video Connection, Cockeysville
Video Works, Ellicott City
Video Connection, Olney
Reistertown Video Inc., Reistertown
Video Outlet, Silver Springs
Computer Connection, Taneytown
Greetings & Readings, Towson
Computer Answers & SVC, Waldolf

MASSACHUSETTS
Acton Video, Acton
Game-Tech, Arlington
Name Of The Game, Boston
Video Connection, Burlington
Act 1 Video Inc., Dracut
Video Plus, Framingham
Video Exchange, North Andover
Taylor Sound Inc., Pittsfield
Video Paradise, Plymouth
Freeze Frame Inc., Saugus
Video Barn, Somerville
TV Game Traders, Springfield
Good Vibrations, Stoughton

MICHIGAN
Edge Connector, Clio
Motor City Drugs & Video, Dearborn
Alexander's Book Store, Detroit
Mousetrap Video, Detroit
Just Software, East Detroit
Video Connection, Farmington Hills
Video Today, Holland
Home Video Outlet, Lansing
Video Phile, Lapeer
Video Connection #140, Madison Hts.
Signal Service, Napoleon
Pro Video, Okemos
Chi Town Records, Oscoda
New Horizon Book Shop, Roseville
Mettron, Saint Clair Shores
Record Cellar, Sterling Hts.
Maxaron Corp., Warren
Rite Way Ents., Warren
Top Stop T Shirt Co., Warren

MINNESOTA
Adventures In Video, Crystal
Games By James, Edina
Discount Video, Minneapolis
Games By James, Minnetonka

MISSISSIPPI
Take-One Video, Long Beach

MISSOURI
National Video, Kansas City
Curt's Computers, Palmyra
Harvest Plaza Video, St. Charles
Liberty Sound, St. Joseph

MONTANA
Curtis Mathes Entertainment, Billings

NEVADA
IC Electronics, Las Vegas

NEW HAMPSHIRE
Video Biz of New Hampshire, Bedford
Home Video Shop, Seabrook
Video Station Inc., South Merrimack

NEW JERSEY
Software City, Bergenfield
Video Aids Inc., Bloomfield
Video Vision, Bridgeton
Trash Or Treasure, Budd Lake
Gemini Enterprises, Cedar Knolls
Video Connection, Cherry Hill
O'Johnnies, Clark
Accent On Video, Closter
Video Store, Elmwood Park
Video Trek, Fort Lee
Camera Video Showplace, Freehold
Nu-Video, Lakewood
Video Junction Inc., Leonia
Video Home Center, Maralapan
Video Track, Marlboro
DC Video Inc., Manasquan
Ippy's, Manasquan
Video Studio, Metuchen
Video Access, North Bergen
Video Fantasy, Palisades Park
Stan's Discount Energy & Video, Penns Grove
Record Record, Pompton Lakes
Software City, Ridgefield
Video Connection, Somerset
Video Station, Somerset
Software Store Inc., Somerville
Video Galaxy, Turnerville
Captain Video Inc., Vineland
Opening Night Video, Wayne
Video Odyssey Inc., Woodbridge
Video Valance, Woodridge

NEW YORK
Video Connection, Albany
Videovision, Baldwin
Future Video, Bayside
Video Visions, Bayside
Videotronics, Bronx
Discount Book Warehouse, Brooklyn
Ekron Systems, Brooklyn
Flatbush Video, Brooklyn
Parkway Video & Electronics, Brooklyn
Taso's Video Fair, Brooklyn
Video Store, Brooklyn
Video Connection, Cedarhurst
Moriches Vantage Mart, Center Moriches
Video Emporium, Coram
Anytime Video, Deer Park
Video Connection, Delmar
Video Connection, Derby
Video Connection, East Northport
Video Quest, Elmont
Tanel Electronics, Floral Park
Video Network, Floral Park
Audio Video Barn, Blushing
Video Network Center, Flushing
Video Wizard Inc., Flushing
Magic Video, Forest Hills
Video Statio, Forest Hills
NSB Video, Franklin Square
Big Apple Video, Glendale
Video Etc., Great Neck
Huntington Video & Computer, Huntington Sta
Video Enterprise, Kenmore
ACE Camera Shop, Lawrence
Castle Video Inc., Lindenhurst
Kaleidoscope, Liverpool
Delman Television Co., Long Beach
L V R Video, Manhasset
Ankar Video Inc., Merrick
Video Connection, Merrick
Video Connection, Middle Village
HM Electronics, Nanuet
Captain Video, New City
Future Video, New Hyde Park
Leigh's Computers, New York
Mau Corp. New York
Video Connection, New York
Software Supply Int'l. Inc., Niagara Falls
Ozone Park Video, Ozone Park
Commander Video, Port Chester
Video Adventure, Pound Ridge
Video Breakthrough, Riverhead
Video Den, Scarsdale
Video Entertainment, Sidney
J N P Electronics, Staten Island
Video Galactica, Staten Island
Video Station, Suffern
Video Connection, Sunnyside
Video Connection, Tonawanda
Selgen Enterprises, Valley Stream
Fireside Video, White Plains
Video Village, Whitestone
Silver Dollar Coin Co., Woodhaven
Video Supermarket, Woodhaven
Big Apple Music, Yorkville

NORTH CAROLINA
Video Station, Asheville
21st Century Video, Durham
Video Connection, Goldsboro
Video Connection, Greensboro
Rainbow Records, Morehead City
Hardins Magnavox Home Ent., Shelby

OHIO
M & B Video Store, Akron
Video Replay, Akron
Future Now, Cincinnati
Video Depot, Cleveland
Magic Castle Video, Columbus
Video Game Express, Columbus
Video Plus Inc., Garfield Hts.
Home Video Library, Middletown
American Video, North Olmsted
Cartridge Connection, Proctorville
Calypso Video, Toledo
Silver Screen Video, Wickliffe
Video Den, Willoughby

OKLAHOMA
Video Comp. Inc., Lawton

OREGON
Capital Audio Systems, Salem

PENNSYLVANIA
Captain Video Center Store #10, Aston
Video Connection, Dresher
Video Store, Levittown
Home Video Center Inc., Newton Square
Tonidale Arcade, Oakdale
Software Plus, Philadelphia
Video Games Plus, Philadelphia
The Video Inn, Philadelphia
Video Connection, Quakertown
International Video York, York

PUERTO RICO
Video Vision #59, Guaynabo

RHODE ISLAND
Video Connection, Johnston
Video City, Providence

SOUTH CAROLINA
Carolina Video Center Inc., Charleston
Game Exchange, Greenwood
All That's Video, Spartanburg

TENNESSEE
Radio Service Center, Nashville
Video World, Nashville
Totally Video, Smyrna
Sneaky Snakes Elect., Somerville

TEXAS
TV Center, Abilene
Pantego TV, Arlington
Vid-Com, Brownsville
Video Rainbow, Forth Worth
Wedgewood Rental, Fort Worth
Audio Video Plus, Houston
VI-AM Video & Bookstore, Houston
TV Games Limited, Midland
M & M Elect. Sales & SVC, Synder
Lonestar Video Rentals, Vidor

VERMONT
Video Connection, Brattleboro

VIRGINIA
Video Station, Alexandria
Mr. Franco Printing & Newsstand, Arlington
Video Shop Inc., Manassa
Video Station, Roanoke
Video Express, Virginia Beach
Combs Distributing, Winchester

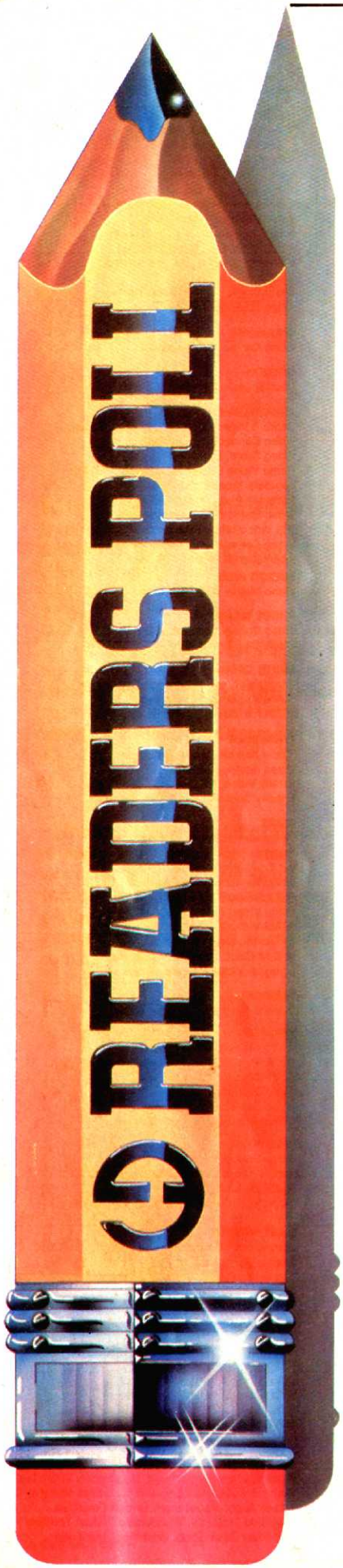
WASHINGTON
Video Space, Bellevue
Kent Video & Computers, Kent
Platnium Sound, Seattle
Video Int'l. Corp./DBA Video Hut, Seattle

WEST VIRGINIA
Computers Plus Inc., Charleston
Tronix, Charleston

WISCONSIN
Video Exchange, Glendale
Phantasy Age Inc., Lacrosse
Total Eclipse, Mehomonee Falls
Ford Theatre Home Video, Racine
Galaxy TV Games, Racine
Drakes Super Valu, Salem
Video Place, South Milwaukee

WYOMING
Clark Co., Cheyenne

CANADA
Video Games Galore, Courtney, British Columbia
Home & Business Computer Ctr., Mississauga, Ontario
Future Shop, Vancourver, British Columbia
Riverside Products, Whitehorse, Yukon Territory
Red River Book Shop, Winnipeg, Manitoba



Interaction between the readers and editors of **Electronic Games** helps make this a better magazine. The more we here at **EG** know about who you are and what you want to read, the better we can satisfy your needs and desires. That's why we run a Reader Poll in every single issue of this magazine. Rest assured that even though we protect the anonymity of every respondent to our survey, the editor personally reads each and every ballot received. And of course, this is also your ballot for casting your vote for the most popular videogames, computer game programs and coin-op arcade machines.

Please return this poll sheet — or a photocopy, if you prefer to keep your **Electronic Games** in perfect condition — to: **Electronic Games**, 460 West 34th Street, 20th Floor, New York, NY 10001.

SEX AND AGE:

☐ Male ☐ Female Age _____

MARITAL STATUS:

☐ Single ☐ Married

HOUSEHOLD INCOME:

☐ Under $5000 ☐ $5000-9999
☐ $10,000- 14,999
☐ $15,000- 19,999
☐ $20,000- 24,999 ☐ $25,000+

NUMBER OF CHILDREN IN HOUSEHOLD: _____

AGES:

☐ Under 2 ☐ 3-5
☐ 6-11 ☐ 12-17

Please indicate the number of cartridges, disks, etc. which you own or plan to buy within the next 12 months for the systems below:

	Own	Plan to Buy
Atari VCS	____	____
Intellivision	____	____
ColecoVision	____	____
Odyssey²	____	____
Atari 5200	____	____
Other Videogame System	____	____
VIC-20	____	____
Atari 400/800	____	____
IBM Personal Computer	____	____
Apple II	____	____
Commodore 64	____	____
TI 99/4A	____	____
Other Microcomputer	____	____
Video Cassette Recorder	____	____
Videodisc Player	____	____

How many hours per week do you spend playing various electronic games:

☐ Less than 2 hours ☐ 2-5 hours ☐ 6-10 hours ☐ More than 10 hours

How much do you spend per week on electronic games:

☐ Under $2 ☐ $2-5 ☐ $6-10 ☐ Over $10

How many people, besides yourself will read this issue of Electronic Games:

NAME OF GAME **SYSTEM**

My favorite videogame cartridges are:

1. _____
2. _____
3. _____

My favorite microcomputer games are:

1. _____
2. _____
3. _____

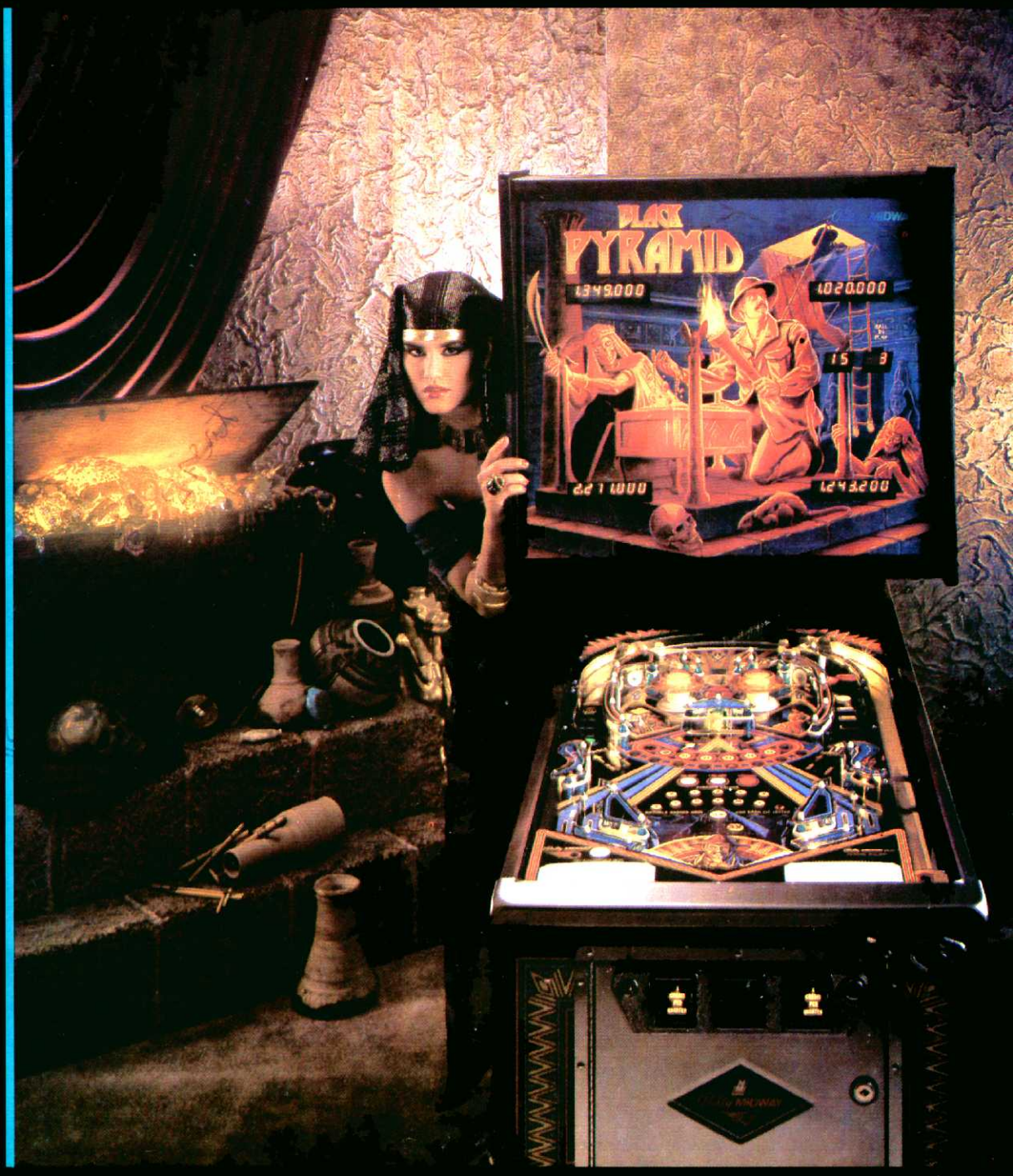
My favorite coin-op games are:

1. _____
2. _____
3. _____

Bally MIDWAY™

Legend of BLACK PYRAMID

It all began thousands of miles beyond the mouth of the Nile River in a fertile region known today as Bally Midway. It was here that an expedition of the world's most prominent pinballologists wandered west and made a startling discovery while excavating for new plateaus in arcade adventures. Through remarkable feats of engineering, they soon uncovered a mysterious artifact said to have once amused Pharaohs, priestesses, and mummies in their final resting place. Preserved in all its monolithic glory lied the treasures of BLACK PYRAMID. Never before had modern civilization had the chance to marvel at the rich ornamental sculpting of its cabinetry . . . the majesty of its flashing lights...the gleaming opulence of its regal flippers. Now from the far corners of Bally Midway, the legend known as BLACK PYRAMID lives again.



BLACK PYRAMID™

© 1984 Bally Midway Mfg. Co.

*Trademark and © Williams 1982, manufactured under license from Williams Electronics, Inc.
†Indicates a trademark of Sears, Roebuck and Co. © 1983 Atari, Inc. All Rights Reserved.

Which player is really firing up his score?

Think quick. The new home version of Moon Patrol looks so much like the arcade, it could fool the man in the moon. So don't find yourself in a crater. Like the player on the right. He'll get only 100 points for using his Moon Buggy to shoot down a Moon Strafer. While the player on the left will get twice as many points for shooting down a Crater Maker. A victory as great as the lunar landing.

Your score can wax even higher. You'll get 80 points every time your Moon Buggy jumps over a rock. But you'll get 100 points when you blow up a rock.

Only Atari makes Moon Patrol for the ATARI® 2600™ Game, Sears Video Arcade† systems, and a version exclusively for the ATARI 5200™ SuperSystem.

So get on your lunar module and scan your local moonscape for Moon Patrol.

Here comes Moon Patrol® from Atari®.

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